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PART II

# CONSUMER PRODUCT SAFETY COMMISSION

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## FEDERAL HAZARDOUS SUBSTANCES ACT REGULATIONS

### Revision and Transfer

Title 16—Commercial Practices

CHAPTER II—CONSUMER PRODUCT SAFETY COMMISSION

SUBCHAPTER C—FEDERAL HAZARDOUS SUBSTANCES ACT REGULATIONS

# PART 1500—HAZARDOUS SUBSTANCES AND ARTICLES; ADMINISTRATION AND ENFORCEMENT REGULATIONS

# PART 1505—REQUIREMENTS FOR ELECTRICALLY OPERATED TOYS OR OTHER ELECTRICALLY OPERATED ARTICLES INTENDED FOR USE BY CHILDREN

## Revision and Transfer

Effective May 14, 1973, sec. 30(a) of the Consumer Product Safety Act (Pub. L. 92–573, 86 Stat. 1231 (15 U.S.C. 2079 (a))), among other things, transferred from the Secretary of Health, Education, and Welfare to the Consumer Product Safety Commission functions under the Federal Hazardous Substances Act.

Before May 14, 1973, the Commissioner of Food and Drugs under delegated authority, promulgated regulations under the Federal Hazardous Substances Act which appear in the Code of Federal Regulations as 21 CFR Parts 191 and 191b. The purpose of this document is to revise and transfer those regulations.

Accordingly, pursuant to sec 30(a) of the Consumer Product Safety Act, the Consumer Product Safety Commission hereby (1) deletes Parts 191 and 191b from Title 21, Chapter I, and (2) revises and reissues the regulations under the Federal Hazardous Substances Act as Parts 1500 and 1505, respectively, of Title 16, Chapter II, Subchapter C, as set forth below.

Any provisions of 21 CFR Parts 191 and 191b having delayed effective dates shall have the same delayed effective date in 16 CFR Parts 1500 and 1505, and these are noted.

The material is revised to update names, titles, cross-references, etc., and to add and clarify certain definitions. The statutory definitions appearing in sec. 2 of the Federal Hazardous Substances Act (15 U.S.C. 1261) have been added to the regulations for convenience and are set forth in 16 CFR 1500.3(b). The definitions that previously appeared in 21 CFR 191.1 have been clarified as to their relationship to the statutory definitions and those that involve the latter are set forth in 16 CFR 1500.3(c).

Since no new requirements are added by this revision, notice and public procedure are not prerequisites to this issuance.

Parts 1500 and 1505 of Title 16, Chapter II, Subchapter C, read as follows:

# PART 1500—HAZARDOUS SUBSTANCES AND ARTICLES; ADMINISTRATION AND ENFORCEMENT REGULATIONS

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AUTHORITY.—Secs. 2–5, 10, 14, 74 Stat. 372–76, 378–79, as amended, 80 Stat. 1303–05, 83 Stat. 187–89, 84 Stat. 1673 (15 U.S.C. 1261 and note, 1262–64, 1269, 1273) unless otherwise noted.

## § 1500.1 Scope of subchapter.

Set forth in this Subchapter C are the regulations of the Consumer Product Safety Commission issued pursuant to and for the implementation of the Federal Hazardous Substances Act as amended (see § 1500.3(a)(1)).

## § 1500.2 Authority.

Authority under the Federal Hazardous Substances Act is vested in the Consumer Product Safety Commission by section 30(a) of the Consumer Product Safety Act (15 U.S.C. 2079(a)).

## § 1500.3 Definitions.

(a) *Certain terms used in this part.* As used in this part:

(1) "Act" means the Federal Hazardous Substances Act (Pub. L. 86–613, 74 Stat. 372–81 (15 U.S.C. 1261–74)) as amended by:

(i) The Child Protection Act of 1966 (Pub. L. 89–756, 80 Stat. 1303–05).

(ii) The Child Protection and Toy Safety Act of 1969 (Pub. L. 91–113, 83 Stat. 187–90).

(iii) The Poison Prevention Packaging Act of 1970 (Pub. L. 91–601, 84 Stat. 1670–74).

(2) "Commission" means the Consumer Product Safety Commission established May 14, 1973, pursuant to provisions of the Consumer Product Safety Act (Pub. L. 92–573, 86 Stat. 1207–33 (15 U.S.C. 2051–81)).

(b) *Statutory definitions.* Except for the definitions given in section 2 (c) and (d) of the act, which are obsolete, the definitions set forth in section 2 of the act are applicable to this part and are repeated for convenience as follows (some of these statutory definitions are interpreted, supplemented, or provided with alternatives in paragraph (c) of this section):

(1) "Territory" means any territory or possession of the United States, including the District of Columbia and the Commonwealth of Puerto Rico but excluding the Canal Zone.

(2) "Interstate commerce" means (i) commerce between any State or territory and any place outside thereof and (ii) commerce within the District of Columbia or within any territory not organized with a legislative body.

(3) "Person" includes an individual, partnership, corporation, and association.

(4) (i) "Hazardous substance" means:

(A) Any substance or mixture of substances which is toxic, corrosive, an irritant, a strong sensitizer, flammable or combustible, or generates pressure through decomposition, heat, or other means, if such substance or mixture of substances may cause substantial personal injury or substantial illness during or as a proximate result of any

customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion by children.

(B) Any substance which the Commission by regulation finds, pursuant to the provisions of section 3(a) of the act, meet the requirements of section 2(f)(1)(A) of the act (restated in (A) above).

(C) Any radioactive substance if, with respect to such substance as used in a particular class of article or as packaged, the Commission determines by regulation that the substance is sufficiently hazardous to require labeling in accordance with the act in order to protect the public health.

(D) Any toy or other article intended for use by children which the Commission by regulation determines, in accordance with section 3(e) of the act, presents an electrical, mechanical, or thermal hazard.

(ii) "Hazardous substance" shall not apply to pesticides subject to the Federal Insecticide, Fungicide, and Rodenticide Act, to foods, drugs, and cosmetics subject to the Federal Food, Drug, and Cosmetic Act, nor to substances intended for use as fuels when stored in containers and used in the heating, cooking, or refrigeration system of a house. "Hazardous substance" shall apply, however, to any article which is not itself a pesticide within the meaning of the Federal Insecticide, Fungicide, and Rodenticide Act but which is a hazardous substance within the meaning of section 2(f)(1) of the Federal Hazardous Substances Act (restated in paragraph (b)(4)(i) of this section) by reason of bearing or containing such a pesticide.

(iii) "Hazardous substance" shall not include any source material, special nuclear material, or byproduct material as defined in the Atomic Energy Act of 1954, as amended, and regulations issued pursuant thereto by the Atomic Energy Commission.

(5) "Toxic" shall apply to any substance (other than a radioactive substance) which has the capacity to produce personal injury or illness to man through ingestion, inhalation, or absorption through any body surface.

(6)(i) "Highly toxic" means any substance which falls within any of the following categories:

(A) Produces death within 14 days in half or more than half of a group of 10 or more laboratory white rats each weighing between 200 and 300 grams, at a single dose of 50 milligrams or less per kilogram of body weight, when orally administered; or

(B) Produces death within 14 days in half or more than half of a group of 10 or more laboratory white rats each weighing between 200 and 300 grams, when inhaled continuously for a period of 1 hour or less at an atmospheric concentration of 200 parts per million by volume or less of gas or vapor or 2 milligrams per liter by volume or less of mist or dust, provided such concentration is likely to be encountered by man when the substance is used in any reasonably foreseeable manner; or

(C) Produces death within 14 days in half or more than half of a group of 10 or more rabbits tested in a dosage of 200 milligrams or less per kilogram of body weight, when administered by continuous contact with the bare skin for 24 hours or less.

(ii) If the Commission finds that available data on human experience with any substance indicate results different from those obtained on animals in the dosages and concentrations specified in paragraph (b)(6)(i) of this section, the human data shall take precedence.

(7) "Corrosive" means any substance which in contact with living tissue will cause destruction of tissue by chemical action, but shall not refer to action on inanimate surfaces.

(8) "Irritant" means any substance not corrosive within the meaning of section 2(i) of the act (restated in paragraph (b)(7) of this section) which on immediate, prolonged, or repeated contact with normal living tissue will induce a local inflammatory reaction.

(9) "Strong sensitizer" means a substance which will cause on normal living tissue through an allergic or photodynamic process a hypersensitivity which becomes evident on reapplication of the same substance and which is designated as such by the Commission. Before designating any substance as a strong sensitizer, the Commission, upon consideration of the frequency of occurrence and severity of the reaction, shall find that the substance has a significant potential for causing hypersensitivity.

(10) "Extremely flammable" shall apply to any substance which has a flashpoint at or below 20° F. as determined by the Tagliabue Open Cup Tester; "flammable" shall apply to any substance which has a flashpoint of above 20° F., to and including 80° F., as determined by the Tagliabue Open Cup Tester; and "combustible" shall apply to any substance which has a flashpoint above 80° F. to and including 150° F., as determined by the Tagliabue Open Cup Tester; except that the flammability or combustibility of solids and of the contents of self-pressurized containers shall be determined by methods found by the Commission to be generally applicable to such materials or containers, respectively, and established by regulations issued by the Commission, which regulations shall also define the terms "flammable," "combustible," and "extremely flammable" in accord with such methods.

(11) "Radioactive substance" means a substance which emits ionizing radiation.

(12) "Label" means a display of written, printed, or graphic matter upon the immediate container of any substance or, in the cases of an article which is unpackaged or is not packaged in an immediate container intended or suitable for delivery to the ultimate consumer, a display of such matter directly upon the article involved or upon a tag or other suitable material affixed thereto. A requirement made by or under authority of the act that any word, statement, or other information appear on the label shall not be considered to be complied with unless such word, statement, or other information also appears (i) on the outside container or wrapper, if any there be, unless it is easily legible through the outside container or wrapper and (ii) on all accompanying literature where there are directions for use, written or otherwise.

(13) "Immediate container" does not include package liners.

(14) "Misbranded hazardous substance" means a hazardous substance (including a toy, or other article intended for use by children, which is a hazardous substance, or which bears or contains a hazardous substance in such manner as to be susceptible of access by a child to whom such toy or other article is entrusted) intended, or packaged in a form suitable, for use in the household or by children, if the packaging or labeling of such substance is in violation of an applicable regulation issued pursuant to section 3 or 4 of the Poison Prevention Packaging Act of 1970 or if such substance, except as otherwise provided by or pursuant to section 3 of the act (Federal Hazardous Substances Act), fails to bear a label:

(i) Which states conspicuously:

(A) The name and place of business of the manufacturer, packer, distributor, or seller;

(B) The common or usual name or the chemical name (if there be no common or usual name) of the hazardous substance or of each component which contributes substantially to its hazard, unless the Commission by regulation permits or requires the use of a recognized generic name;

(C) The signal word "DANGER" on substances which are extremely flammable, corrosive, or highly toxic;

(D) The signal word "WARNING" or "CAUTION" on all other hazardous substances;

(E) An affirmative statement of the principal hazard or hazards, such as "Flammable," "Combustible," "Vapor Harmful," "Causes Burns," "Absorbed Through Skin," or similar wording descriptive of the hazard;

(F) Precautionary measures describing the action to be followed or avoided, except when modified by regulation of the Commission pursuant to section 3 of the act;

(G) Instruction, when necessary or appropriate, for first-aid treatment;

(H) The word "Poison" for any hazardous substance which is defined as "highly toxic" by section 2(h) of the act (restated in paragraph (b)(6) of this section);

(I) Instructions for handling and storage of packages which require special care in handling or storage; and

(J) The statement (*1*) "Keep out of the reach of children" or its practical equivalent, or, (*2*) if the article is intended for use by children and is not a banned hazardous substance, adequate directions for the protection of children from the hazard; and

(ii) On which any statements required under section 2(p)(1) of the act (restated in paragraph (b)(15)(i) of this section) are located prominently and are in the English language in conspicuous and legible type in contrast by typography, layout, or color with other printed matter on the label.

"Misbranded hazardous substance" also means a household substance as defined in section 2(2)(D) of the Poison Prevention Packaging Act of 1970 if it is a substance described in section 2(f)(1) of the Federal Hazardous Substances Act (restated in paragraph (b)(4)(i)(A) of this section) and its packaging or labeling is in violation of an applicable regulation issued pursuant to section 3 or 4 of the Poison Prevention Packaging Act of 1970.

(15)(i) "Banned hazardous substance" means:

(A) Any toy, or other article intended for use by children, which is a hazardous substance, or which bears or contains a hazardous substance in such manner as to be susceptible of access by a child to whom such toy or other article is entrusted; or

(B) Any hazardous substance intended, or packaged in a form suitable, for use in the household, which the Commission by regulation classifies as a "banned hazardous substance" on the basis of a finding that, notwithstanding such cautionary labeling as is or may be required under the act for that substance, the degree or nature of the hazard involved in the presence or use of such substance in households is such that the objective of the protection of the public health and safety can be adequately served only by keeping such substance, when so intended or packaged, out of the channels of interstate commerce: *Provided*, That the Commission by regulation (*1*) shall exempt from section 2(q)(1)(A) of the act (restated in paragraph (b)(15)(i)(A) of this section) articles, such as chemistry sets, which by reason of their functional purpose require the inclusion of the hazardous substance involved, or necessarily present an electrical, mechanical, or thermal hazard, and which bear labeling giving adequate directions and warnings for safe use and are intended for use by children who have attained sufficient maturity, and may reasonably be expected, to read and heed such directions and warnings, and (*2*) shall exempt from section 2(q)(1)(A) of the act (restated in paragraph (b)(15)(i)(A) of this section), and provide for the labeling of, common fireworks (including toy paper caps, cone fountains, cylinder fountains, whistles without report, and sparklers) to the extent that the Commission determines that such articles can be adequately labeled to protect the purchasers and users thereof.

(ii) Proceedings for the issuance, amendment, or repeal of regulations pursuant to section 2(q)(1)(B) of the act (restated in paragraph (b)(15)(i)(B) of this section) shall be governed by the provisions of section 701 (e), (f), and (g) of the Federal Food, Drug, and Cosmetic Act: *Provided*, That if the Commission finds that the distribution for household use of the hazardous substance involved presents an imminent hazard to the public health, the Commission may by order published in the FEDERAL REGISTER give notice of such finding, and thereupon such substance when intended or offered for household use, or when so packaged as to be suitable for such use, shall be deemed to be a "banned hazardous substance" pending the completion of proceedings relating to the issuance of such regulations.

(16) "Electrical hazard"—an article may be determined to present an electrical hazard if, in normal use or when subjected to reasonably foreseeable damage or abuse, its design or manufacture may cause personal injury or illness by electric shock.

(17) "Mechanical hazard"—an article may be determined to present a mechanical hazard if, in normal use or when subjected to reasonably foreseeable damage or abuse, its design or manufacture presents an unreasonable risk of personal injury or illness:

(i) From fracture, fragmentation, or disassembly of the article;

(ii) From propulsion of the article (or any part or accessory thereof);

(iii) From points or other protrusions, surfaces, edges, openings, or closures;

(iv) From moving parts;

(v) From lack or insufficiency of controls to reduce or stop motion;

(vi) As a result of self-adhering characteristics of the article;

(vii) Because the article (or any part or accessory thereof) may be aspirated or ingested;

(viii) Because of instability; or

(ix) Because of any other aspect of the article's design or manufacture.

(18) "Thermal hazard"—an article may be determined to present a thermal hazard if, in normal use or when subjected to reasonably foreseeable damage or abuse, its design or manufacture presents an unreasonable risk of personal injury or illness because of heat as from heated parts, substances, or surfaces.

(c) *Certain statutory definitions interpreted, supplemented, or provided with alternatives.* The following items interpret, supplement, or provide alternatives to definitions set forth in section 2 of the act (and restated in paragraph (b) of this section):

(1) To provide flexibility as to the number of animals tested, the following is an alternative to the definition of "highly toxic" in section 2(h) of the act (and paragraph (b)(6) of this section): "Highly toxic" means:

(i) A substance determined by the Commission to be highly toxic on the basis of human experience; and/or

(ii) A substance that produces death within 14 days in half or more than half of a group of:

(A) White rats (each weighing between 200 and 300 grams) when a single dose of 50 milligrams or less per kilogram of body weight is administered orally;

(B) White rats (each weighing between 200 and 300 grams) when a concentration of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter by volume or less of mist or dust, is inhaled continuously for 1 hour or less, if such concentration is likely to be encountered by man when the substance is used in any reasonably foreseeable manner; and/or

(C) Rabbits (each weighing between 2.3 and 3.0 kilograms) when a dosage of 200 milligrams or less per kilogram of body weight is administered by continuous contact with the bare skin for 24 hours or less by the method described in § 1500.40.

The number of animals tested shall be sufficient to give a statistically significant result and shall be in conformity with good pharmacological practices.

(2) To give specificity to the definition of "toxic" in section 2(g) of the act (and restated in paragraph (b)(5) of this section), the following supplements that definition: "Toxic" means any substance that produces death within 14 days in half or more than half of a group of:

(i) White rats (each weighing between 200 and 300 grams) when a single dose of from 50 milligrams to 5 grams per kilogram of body weight is administered orally. Substances falling in the toxicity range between 500 milligrams and 5 grams per kilogram of body weight will be considered for exemption from some or all of the labeling requirements of the act, under §1500.82, upon a showing that such labeling is not needed because of the physical form of the substances (solid, a thick plastic, emulsion, etc.), the size or closure of the container, human experience with the article, or any other relevant factors;

(ii) White rats (each weighing between 200 and 300 grams) when an atmospheric concentration of more than 200 parts per million but not more than 20,000 parts per million by volume of gas or vapor, or more than 2 but not more than 200 milligrams per liter by volume of mist or dust, is inhaled continuously for 1 hour or less, if such concentration is likely to be encountered by man when the substance is used in any reasonably foreseeable manner; and/or

(iii) Rabbits (each weighing between 2.3 and 3.0 kilograms) when a dosage of more than 200 milligrams but not more than 2 grams per kilogram of body weight is administered by continuous contact with the bare skin for 24 hours by the method described in § 1500.40.

The number of animals tested shall be sufficient to give a statistically significant result and shall be in conformity with good pharmacological practices. "Toxic" also applies to any substance that is "toxic" (but not "highly toxic") on the basis of human experience.

(3) The definition of "corrosive" in section 2(i) of the act (restated in paragraph (b)(7) of this section) is interpreted to also mean the following: "Corrosive" means a substance that causes visible destruction or irreversible alterations in the tissue at the site of contact. A test for a corrosive substance is whether, by human experience, such tissue destruction occurs at the site of application. A substance would be consid-

ered corrosive to the skin if, when tested on the intact skin of the albino rabbit by the technique described in § 1500.41, the structure of the tissue at the site or contact is destroyed or changed irreversibly in 24 hours or less. Other appropriate tests should be applied when contact of the substance with other than skin tissue is being considered.

(4) The definition of "irritant" in section 2(j) of the act (restated in paragraph (b)(8) of this section) is supplemented by the following: "Irritant" includes "primary irritant to the skin" as well as substances irritant to the eye or to mucous membrances. "Primary irritant" means a substance that is not corrosive and that human experience data indicate is a primary irritant and/or means a substance that results in an empirical score of five or more when tested by the method described in § 1500.41. "Eye irritant" means a substance that human experience data indicate is an irritant to the eye and/or means a substance for which a positive test is obtained when tested by the method described in § 1500.42.

(5) The definition of "strong sensitizer" in section 2(k) of the act (restated in paragraph (b)(9) of this section) is supplemented by the following: A "strong allergic sensitizer" is a substance that produces an allergenic sensitization in a substantial number of persons who come into contact with it. An allergic sensitization develops by means of an "antibody mechanism" in contradistinction to a primary irritant reaction which does not arise because of the participation of an "antibody mechanism." An allergic reaction ordinarily does not develop on first contact because of necessity of prior exposure to the substance in question. The sensitized tissue exhibits a greatly increased capacity to react to subsequent exposures of the offending agent. Subsequent exposures may therefore produce severe reactions with little correlation to the amounts of excitant involved. A "photodynamic sensitizer" is a substance that causes an alteration in the skin or mucous membranes in general or to the skin or mucous membrane at the site of contact so that when these areas are subsequently exposed to ordinary sunlight (or equivalent radiant energy) an inflammatory reaction will develop.

(6) The following definitions are supplementary to the definitions of "extremely flammable" and "flammable" in section 2(l) of the act or are in response to certain provisions of section 2(l) regarding the flammability of solids and of the contents of self-pressurized containers (section 2(l) is restated in paragraph (b)(10) of this section):

(i) "Extremely flammable" means any substance that has a flashpoint at or below 20° F. as determined by the method described in § 1500.43.

(ii) "Flammable" means any substance that has a flashpoint of above 20° F., to and including 80° F., as determined by the method described in § 1500.43.

(iii) "Extremely flammable solid" means a solid substance that ignites and burns at an ambient temperature of 80° F. or less when subjected to friction, percussion, or electrical spark.

(iv) "Flammable solid" means a solid substance that, when tested by the method described in § 1500.44, ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

(v) "Extremely flammable contents of self-pressurized container" means contents of a self-pressurized container that, when tested by the method described in § 1500.45, a flashback (a flame extending back to the dispenser) is obtained at any degree of valve opening and the flashpoint, when tested by the method described in § 1500.46, is less than 20° F.

(vi) "Flammable contents of self-pressurized container" means contents of a self-pressurized container that, when tested by the method described in § 1500.45, a flame projection exceeding 18 inches is obtained at full valve opening or a flashback (a flame extending back to the dispenser) is obtained at any degree of valve opening.

(7) The definition of "hazardous substance" in section 2(f)(1)(A) of the act (restated in paragraph (b)(4)(i)A) of this section is supplemented by the following definitions or interpretations of terms used therein:

(i) A substance or mixture of substances that "generates pressure through decomposition, heat, or other means" is a hazardous substance:

(A) If it explodes when subjected to an electrical spark, percussion, or the flame of a burning paraffin candle for 5 seconds or less.

(B) If it expels the closure of its container, or bursts its container, when held at or below 130° F. for 2 days or less.

(C) If it erupts from its opened container at a temperature of 130° F. or less after having been held in the closed container at 130° F. for 2 days.

(D) If it comprises the contents of a self-pressurized container.

(ii) "Substantial personal injury or illness" means any injury or illness of a significant nature. It need not be severe or serious. What is excluded by the word "substantial" is a wholly insignificant or negligible injury or illness.

(iii) "Proximate result" means a result that follows in the course of events without an unforeseeable, intervening, independent cause.

(iv) "Reasonably foreseeable handling or use" includes the reasonably foreseeable accidental handling or use, not only by the purchaser or intended user of the product, but by all others in a household, especially children.

(8) The definition of "radioactive substance" in section 2(m) of the act (restated in paragraph (b)(11) of this section) is supplemented by the following: "Radioactive substance" means a substance which, because of nuclear instability, emits electromagnetic and/or particulate radiation capable of producing ions in its passage through matter. Source materials, special nuclear material, and byproduct materials described in section 2(f)(3) of the act are exempt.

(9) In the definition of "label" in section 2(n) of the act (restated in paragraph (b)(12) of this section), a provision stipulates that words, statements, or other information required to be on the label must also appear on all accompanying literature where there are directions for use, written or otherwise. To make this provision more specific, "accompanying literature" is interpreted to mean any placard, pamphlet, booklet, book, sign, or other written, printed, or graphic matter or visual device that provides directions for use, written or otherwise, and that is used in connection with the display, sale, demonstration, or merchandising of a hazardous substance intended for or packaged in a form suitable for use in the household or by children.

(10) The definition of "misbranded hazardous substance" in section 2(p) of the act (restated in paragraph (b)(14) of this section) is supplemented by the following definitions or interpretations of terms used therein:

(i) "Hazardous substances intended, or packaged in a form suitable, for use in the household" means any hazardous substance, whether or not packaged, that under any customary or reasonably foreseeable condition of purchase, storage, or use may be brought into or around a house, apartment, or other place where people dwell, or in or around any related building or shed including, but not limited to, a garage, carport, barn, or storage shed. The term includes articles, such as polishes or cleaners, designed primarily for professional use but which are available in retail stores, such as hobby shops, for nonprofessional use. Also included are items, such as antifreeze and radiator cleaners, that although principally for car use may be stored in or around dwelling places. The term does not include industrial supplies that might be taken into a home by a serviceman. An article labeled as, and marketed solely for, industrial use does not become subject to this act because of the possibility that an industrial worker may take a supply for his own use. Size of unit or container is not the only index of whether the article is suitable for use in or around the household; the test shall be whether under any reasonably foreseeable condition of purchase, storage, or use the article may be found in or around a dwelling.

(ii) "Conspicuously" in section 2(p)(1) of the act and "prominently" and "conspicuous" in section 2(p)(2) of the act mean that, under customary conditions of purchase, storage, and use, the required information shall be visible, noticeable, and in clear and legible English. Some factors affecting a warning's prominence and conspicuousness are: Location, size of type, and contrast of printing against background. Also bearing on the effectiveness of a warning might be the effect of the package contents if spilled on the label.

### § 1500.4 Human experience with hazardous substances.

(a) Reliable data on human experience with any substance should be taken into

account in determining whether an article is a "hazardous substance" within the meaning of the act. When such data give reliable results different from results with animal data, the human experience takes precedence.

(b) Experience may show that an article is more or less toxic, irritant, or corrosive to man than to test animals. It may show other factors that are important in determining the degree of hazard to humans represented by the substance. For example, experience shows that radiator antifreeze is likely to be stored in the household or garage and likely to be ingested in significant quantities by some persons. It also shows that a particular substance in liquid form is more likely to be ingested than the same substance in a paste or a solid and that an aerosol is more likely to get into the eyes and the nasal passages than a liquid.

**§ 1500.5 Hazardous mixtures.**

For a mixture of substances, the determination of whether the mixture is a "hazardous substance" as defined by section 2(f) of the act (repeated in § 1500.3(b)(4)) should be based on the physical, chemical, and pharmacological characteristics of the mixture. A mixture of substances may therefore be less hazardous or more hazardous than its components because of synergistic or antagonistic reactions. It may not be possible to reach a fully satisfactory decision concerning the toxic, irritant, corrosive, flammable, sensitizing, or pressure-generating properties of a substance from what is known about its components or ingredients. The mixture itself should be tested.

**§ 1500.7 Federal preemption of State and local labeling requirements.**

(a) Section 18(b) of the act provides that any law, regulation, or ordinance of the States and political subdivisions thereof purporting to establish a precautionary labeling requirement for any substance or article intended or suitable for household use which differs from the requirements or exemptions of the act or the regulations or interpretations promulgated pursuant thereto shall be null and void. The legislative history reveals that Congress intended by this provision to prevent a proliferation of differing labeling requirements for household products.

(b) Federal preemption applies (1) to household substances and articles required to be labeled in accordance with the act and (2) to household substances and articles not required to be labeled in accordance with the act because they (i) are not "hazardous substances" as defined by section 2(f) of the act (repeated in § 1500.3(b)(4)) or (ii) are exempt from labeling under a regulation promulgated by the Commission. Federal preemption applies to any nonuniform labeling requirement, regardless of whether it conflicts with or is incompatible with the Federal requirement.

(c) Federal preemption applies to any labeling requirement intended to serve as or be a part of, or that is in the nature of, precautionary labeling. Precautionary labeling includes such information as warnings, registration or identification numbers, disclosure of hazards, antidote information, ingredient statements, and other similar labeling requirements.

(d) Federal preemption does not apply to a State or local ban on a household product.

(e) Whenever a State or local jurisdiction has reason to believe that additional or different precautionary labeling should be required for household substances and articles, it should petition the Commission to promulgate an appropriate nationwide regulation. Such petitions should be submitted to the Secretary, Consumer Product Safety Commission, Washington, D.C. 20207. The Commission will expedite consideration of any such petition.

**§ 1500.12 Products declared to be hazardous substances under section 3(a) of the act.**

(a) The Commission finds that the following articles are hazardous substances within the meaning of the act because they are capable of causing substantial personal injury or substantial illness during or as a proximate result of any customary or reasonably foreseeable handling or use:

(1) Charcoal briquettes and other forms of charcoal in containers for retail sale and intended for cooking or heating.

**§ 1500.13 Listing of "strong sensitizer" substances.**

On the basis of frequency of occurrence and severity of reaction information, the Commission finds that the following substances have a significant potential for causing hypersensitivity and therefore meet the definition for "strong sensitizer" in section 2(k) of the act (repeated in § 1500.3(b)(9)):

(a) Paraphenylenediamine and products containing it.

(b) Powdered orris root and products containing it.

(c) Epoxy resins systems containing in any concentration ethylenediamine, diethylenetriamine, and diglycidyl ethers of molecular weight of less than 200.

(d) Formaldehyde and products containing 1 percent or more of formaldehyde.

(e) Oil of bergamot and products containing 2 percent or more of oil of bergamot.

**§ 1500.14 Products requiring special labeling under section 3(b) of the act.**

(a) Human experience, as reported in the scientific literature and to the Poison Control Centers and the National Clearing House for Poison Control Centers, and opinions of informed medical experts establish that the following substances are hazardous:

(1) Diethylene glycol and mixtures containing 10 percent or more by weight of diethylene glycol.

(2) Ethylene glycol and mixtures containing 10 percent or more by weight of ethylene glycol.

(3) Products containing 5 percent or more by weight of benzene (also known as benzol) and products containing 10 percent or more by weight of toluene (also known as toluol), xylene (also known as xylol), or petroleum distillates such as kerosene, mineral seal oil, naphtha, gasoline, mineral spirits, stoddard solvent, and related petroleum distillates.

(4) Methyl alcohol (methanol) and mixtures containing 4 percent or more by weight of methyl alcohol (methanol).

(5) Turpentine (including gum turpentine, gum spirits of turpentine, steam-distilled wood turpentine, sulfate wood turpentine, and destructively distilled wood turpentine) and mixtures containing 10 percent or more by weight of such turpentine.

(b) The Commission finds that the following substances present special hazards and that, for these substances, the labeling required by section 2(p)(1) of the act is not adequate for the protection of the public health. Under section 3(b) of the act, the following specific label statements are deemed necessary to supplement the labeling required by section 2(p)(1) of the act:

(1) *Diethylene glycol.* Because diethylene glycol and mixtures containing 10 percent or more by weight of diethylene glycol are commonly marketed, stored, and used in a manner increasing the possibility of accidental ingestion, such products shall be labeled with the signal word "warning" and the statement "Harmful if swallowed."

(2) *Ethylene glycol.* Because ethylene glycol and mixtures containing 10 percent or more by weight of ethylene glycol are commonly marketed, stored, and used in a manner increasing the possibility of accidential ingestion, such products shall be labeled with the signal word "warning" and the statement "Harmful or fatal if swallowed."

(3) *Benzene, toluene, xylene, petroleum distillates.* (i) Because inhalation of the vapors of products containing 5 percent or more by weight of benzene may cause blood dyscrasias, such products shall be labeled with the signal word "danger," the statement of hazard "Vapor harmful," the word "poison," and the skull and crossbones symbol. If the product contains 10 percent or more by weight of benzene, it shall bear the additional statement of hazard "Harmful or fatal if swallowed" and the additional statements "If swallowed, do not induce vomiting. Call physician immediately."

(ii) Because products containing 10 percent or more by weight of toluene, xylene, or any of the other substances listed in paragraph (a)(3) of this section may be aspirated into the lungs, with resulting chemical pneumonitis, pneumonia, and pulmonary edema, such products shall be labeled with the signal word "danger," the statement of hazard "Harmful or fatal if swallowed," and the statements "If swallowed, do not induce vomiting. Call physician immediately."

(iii) Because inhalation of the vapor of products containing 10 percent or more by weight of toluene or xylene may cause systemic injury, such products shall bear the statement of hazard "Vapor harmful" in addition to the statements pre-

scribed in paragraph (b)(3)(ii) of this section.

(4) *Methyl alcohol (methanol).* Because death and blindness can result from the ingestion of methyl alcohol, the label for this substance and for mixtures containing 4 percent or more by weight of this substance shall include the signal word "danger," the additional word "poison," and the skull and crossbones symbol. The statement of hazard shall include "Vapor harmful" and "May be fatal or cause blindness if swallowed." The label shall also bear the statement "Cannot be made nonpoisonous."

(5) *Turpentine.* Because turpentine (including gum turpentine, gum spirits of turpentine, steam-distilled wood turpentine, sulfate wood turpentine, and destructively distilled wood turpentine) and products containing 10 percent or more by weight of such turpentine, in addition to oral toxicity resulting in systemic poisoning, may be aspirated into the lungs with resulting chemical pneumonitis, pneumonia, and pulmonary edema, such products shall be labeled with the signal word "danger" and the statement of hazard "Harmful or fatal if swallowed."

(6) *Charcoal.* Charcoal briquettes and other forms of charcoal in containers for retail sale and intended for cooking or heating.

(i) Because inhalation of the carbon monoxide produced by burning charcoal indoors or in confined areas may cause serious injury or death, containers of such products shall bear the following borderlined statement:

> WARNING: Do Not Use for Indoor Heating or Cooking Unless Ventilation Is Provided for Exhausting Fumes to Outside. Toxic Fumes May Accumulate and Cause Death.

(ii) For bags of charcoal the statement specified in subdivision (i) of this subparagraph shall appear within a heavy borderline in a color sharply contrasting to that of the background, on both front and back panels in the upper 25 percent of the panels of the bag at least 2 inches below the seam, and at least 1 inch above any reading material or design elements in type size as follows: The signal word "WARNING" shall appear in capital letters at least three-eighths inch in height; the remaining text of the warning statement shall be printed in letters at least three-sixteenths inch in height.

### § 1500.15 Labeling of fire extinguishers.

When a substance or mixture of substances labeled for use in or as a fire extinguisher produces substances that are toxic within the meaning of § 1500.3(c)(1) and (2) when used according to label directions to extinguish a fire, the containers for such substances shall bear the following labeling:

(a) When substances are produced that meet the definition of highly toxic in §1500.3(c)(1), the signal word "Danger" and the statement of hazard "Poisonous gases formed when used to extinguish flame or on contact with heat" are required labeling.

(b) When substances are produced that meet the definition of toxic in § 1500.3(c)(2), the signal word "Caution" or "Warning" and the statement of hazard "Dangerous gas formed when used to extinguish flame or on contact with heat" are required labeling.

(c) Regardless of whether paragraph (a) or (b) of this section applies, any substance or mixture of substances labeled for use as a fire extinguisher that, if applied to an electrical fire, would subject the user to the likelihood of electrical shock shall be conspicuously labeled "Caution: Do not use on electrical wires."

(d) The statements specified in paragraphs (a), (b), and (c) of this section shall be in addition to any other that may be required under the act. All such substances or mixtures of substances shall also bear the additional statements "Use in an enclosed place may be fatal" and "Do not enter area until well ventilated and all odor of chemical has disappeared."

### § 1500.17 Banned hazardous substances.

(a) Under the authority of section 2(q)(1)(B) of the act, the Commission declares as banned hazardous substances the following articles because they possess such a degree or nature of hazard that adequate cautionary labeling cannot be written and the public health and safety can be served only by keeping such articles out of interstate commerce:

(1) Mixtures that are intended primarily for application to interior masonry walls, floors, etc., as a water repellant treatment and that are "extremely flammable" within the meaning of section 2(1) of the act (repeated in § 1500.3(b)(10)).

(2) Carbon tetrachloride and mixtures containing it (including carbon tetrachloride and mixtures containing it used in fire extinguishers), excluding unavoidable manufacturing residues of carbon tetrachloride in other chemicals that under reasonably foreseeable conditions of use do not result in an atmospheric concentration of carbon tetrachloride greater than 10 parts per million.

(3) Fireworks devices intended to produce audible effects (including but not limited to cherry bombs, M–80 salutes, silver salutes, and other large firecrackers, aerial bombs, and other fireworks designed to produce audible effects, and including kits and components intended to produce such fireworks) if the audible effect is produced by a charge of more than 2 grains of pyrotechnic composition; except that this provision shall not apply to such fireworks devices if all of the following conditions are met:

(i) Such fireworks devices are distributed to farmers, ranchers, or growers through a wildlife management program administered by the U.S. Department of the Interior (or by equivalent State or local government agencies); and

(ii) Such distribution is in response to a written application describing the wildlife management problem that requires use of such devices, is of a quantity no greater than required to control the problem described, and is where other means of control are unavailable or inadequate.

(4) Liquid drain cleaners containing 10 percent or more by weight of sodium and/or potassium hydroxide; except that this subparagraph shall not apply to such liquid drain cleaners if packaged in accordance with a standard for special packaging of such articles promulgated under the Poison Prevention Packaging Act of 1970 (Pub. L. 91–601, 84 Stat. 1670–74 (15 U.S.C. 1471–76)).

(5) Products containing soluble cyanide salts, excluding unavoidable manufacturing residues of cyanide salts in other chemicals that under reasonable and foreseeable conditions of use will not result in a concentration of cyanide greater than 25 parts per million.

(6)(i) Any paint or other similar surface-coating material intended, or packaged in a form suitable, for use in or around the household that:

(A) Is shipped in interstate commerce after December 31, 1973, and contains lead compounds of which the lead content (calculated as the metal) is in excess of 0.06 percent of the total weight of the contained solids or dried paint film; or

(B) Is shipped in interstate commerce between December 31, 1972, and December 31, 1973, and contains lead compounds of which the lead content (calculated as the metal) is in excess of 0.5 percent of the total weight of the contained solids or dried paint film.

(ii) Any toy or other article intended for use by children that:

(A) Is shipped in interstate commerce after December 31, 1973, and bears any paint or other similar surface-coating material containing lead compounds of which the lead content (calculated as the metal) is in excess of 0.06 percent of the total weight of the contained solids or dried paint film; or

(B) Is shipped in interstate commerce between December 31, 1972, and December 31, 1973, and bears any paint or other similar surface-coating material containing lead compounds of which the lead content (calculated as the metal) is in excess of 0.5 percent of the total weight of the contained solids or dried paint film.

NOTE.—The effective date of paragraphs (a)(6)(i)(A) and (a)(6)(ii)(A) were stayed by an order published in the FEDERAL REGISTER of August 10, 1972 (37 FR 16078).

(7) General-use garments containing asbestos (other than garments having a bona fide application for personal protection against thermal injury and so constructed that the asbestos fibers will not become airborne under reasonably foreseeable conditions of use).

(Sec. 701 (e), (f), (g), 52 Stat. 1055, as amended (21 U.S.C. 371 (e), (f), (g)).)

### § 1500.18 Banned toys and other banned articles intended for use by children.

(a) *Toys and other children's articles presenting mechanical hazards.* Under the authority of section 2(f)(1)(D) of the act and pursuant to provisions of section 3(e) of the act, the Commission has

determined that the following types of toys or other articles intended for use by children present a mechanical hazard within the meaning of section 2(s) of the act because in normal use, or when subjected to reasonably foreseeable damage or abuse, the design or manufacture presents an unreasonable risk of personal injury or illness:

(1) Any toy rattle containing, either internally or externally, rigid wires, sharp protrusions, or loose small objects that have the potential for causing lacerations, puncture wound injury, aspiration, ingestion, or other injury.

(2) Any toy having noisemaking components or attachments capable of being dislodged by the operating features of the toy or capable of being deliberately removed by a child, which toy has the potential for causing laceration, puncture wound injury, aspiration, ingestion, or other injury.

(3) Any doll, stuffed animal, or other similar toy having internal or external components that have the potential for causing laceration, puncture wound injury, or similar injury.

(4) Lawn darts and other similar sharp-pointed toys usually intended for outdoor use and having the potential for causing puncture wound injury.

(5) Caps (paper or plastic) intended for use with toy guns and toy guns not intended for use with caps if such caps when so used or such toy guns produce impulse-type sound at a peak pressure leved at or above 138 decibels, referred to 0.0002 dyne per square centimeter, when measured in an anechoic chamber at a distance of 25 centimeters (or the distance at which the sound source ordinarily would be from the ear of the child using it if such distance is less than 25 centimeters) in any direction from the source of the sound. This subparagraph is an interim regulation pending further investigation to determine whether prevention of damage to the hearing of children requires revision hereof.

(6) Any article known as a "baby-bouncer," "walker-jumper," or "baby-walker" and any other similar article (referred to in this subparagraph as "article(s)") which is intended to support very young children while sitting, walking, bouncing, jumping, and/or reclining, and which because of its design has any exposed parts capable of causing amputation, crushing, lacerations, fractures, hematomas, bruises, or other injuries to fingers, toes, or other parts of the anatomy of young children. Included among, but not limited to, the design features of such articles which classify the articles as banned hazardous substances are:

(i) The areas about the point on each side of the article where the frame components are joined together to form an "X" shape capable of producing a scissoring, shearing, or pinching effect.

(ii) Other areas where two or more parts are joined in such a manner as to permit a rotational movement capable of exerting a scissoring, shearing, or pinching effect.

(iii) Exposed coil springs which may expand sufficiently to allow an infant's finger, toe, or any other part of the anatomy to be inserted, in whole or in part, and injured by being caught between the coils of the spring or between the spring and another part of the article.

(iv) Holes in plates or tubes which provide the possibility of insertion, in whole or in part, of a finger, toe, or any part of the anatomy that could then be injured by the movement of another part of the article.

(v) Design and construction that permits accidental collapse while in use.

(7) Toys usually known as clacker balls and consisting of two balls of plastic or another material connected by a length of line or cord or similar connector (referred to as "cord" in § 1500.86(a)(5)), intended to be operated in a rhythmic manner by an upward and downward motion of the hand so that the two balls will meet forcefully at the top and bottom of two semicircles thus causing a "clacking" sound, which toys present a mechanical hazard because their design or manufacture presents an unreasonable risk of personal injury from fracture, fragmentations, or disassembly of the toy and from propulsion of the toy or its part(s).

(b) *Electrically operated toys and other electrical operated children's articles presenting electrical, thermal, and/or certain mechanical hazards.* Under the authority of section 2(f)(1)(D) of the act and pursuant to provisions of section 3(e) of the act, the Commission has determined that the following types of electrically operated toys or other electrically operated articles intended for use by children present electrical, thermal, and/or certain mechanical hazards within the meaning of section 2 (r), (s), and/or (t) of the act because in normal use or when subjected to reasonably foreseeable damage or abuse, the design or manufacture may cause personal injury or illness by electric shock and/or presents an unreasonable risk of personal injury or illness because of heat as from heated parts, substances, or surfaces, or because of certain mechanical hazards:

(1) Any electrically operated toy or other electrically operated article intended for use by children (as defined in § 1505.1(a)(1)) that is introduced into interstate commerce and which does not comply with the requirements of Part 1505 of this chapter.

NOTE.—Paragraph (b)(1) was originally promulgated as 21 CFR 191.9a(b)(1) with an effective date of September 3, 1973 (38 FR 6138).

### § 1500.40 Method of testing toxic substances.

The method of testing the toxic substances referred to in § 1500.3(c)(1)(ii)(C) and (2)(iii) is as follows:

(a) *Acute dermal toxicity (single exposure).* In the acute exposures, the agent is held in contact with the skin by means of a sleeve for periods varying up to 24 hours. The sleeve, made of rubber dam or other impervious material, is so constructed that the ends are reinforced with additional strips and should fit snugly around the trunk of the animal. The ends of the sleeve are tucked, permitting the central portion to "balloon" and furnish a reservoir for the dose. The reservoir must have sufficient capacity to contain the dose without pressure. In the following table are given the dimensions of sleeves and the approximate body surface exposed to the test substance. The sleeves may vary in size to accommodate smaller or larger subjects. In the testing of unctuous materials that adhere readily to the skin, mesh wire screen may be employed instead of the sleeve. The screen is padded and raised approximately 2 centimeters from the exposed skin. In the case of dry powder preparations, the skin and substance are moistened with physiological saline prior to exposure. The sleeve or screen is then slipped over the gauze that holds the dose applied to the skin. In the case of finely divided powders, the measured dose is evenly distributed on cotton gauze which is then secured to the area of exposure.

DIMENSIONS OF SLEEVES FOR ACUTE DERMAL TOXICITY TEST

[Test animal—Rabbits]

| Measurements in centimeters | | Range of weight of animals (grams) | Average area of exposure (square centimeters) | Average percentage of total body surface |
|---|---|---|---|---|
| Diameter at ends | Overall length | | | |
| 7.0 | 12.5 | 2,500-3,500 | 240 | 10.7 |

(b) *Preparation of test animal.* The animals are prepared by clipping the skin of the trunk free of hair. Approximately one-half of the animals are further prepared by making epidermal abrasions every 2 or 3 centimeters longitudinally over the area of exposure. The abrasions are sufficiently deep to penetrate the stratum corneum (horny layer of the epidermis) but not to disturb the derma; that is, not to obtain bleeding.

(c) *Procedures for testing.* The sleeve is slipped onto the animal which is then placed in a comfortable but immobilized position in a multiple animal holder. Selected doses of liquids and solutions are introduced under the sleeve. If there is slight leakage from the sleeve, which may occur during the first few hours of exposure, it is collected and reapplied. Dosage levels are adjusted in subsequent exposures (if necessary) to enable a calculation of a dose that would be fatal to 50 percent of the animals. This can be determined from mortality ratios obtained at various doses employed. At the end of 24 hours the sleeves or screens are removed, the volume of unabsorbed material (if any) is measured, and the skin reactions are noted. The subjects are cleaned by thorough wiping, observed for gross symptoms of poisoning, and then observed for 2 weeks.

### § 1500.41 Method of testing primary irritant substances.

Primary irritation to the skin is measured by a patch-test technique on the abraded and intact skin of the albino rabbit, clipped free of hair. A minimum of six subjects are used in abraded and intact skin tests. Introduce under a square patch, such as surgical gauze measuring 1 inch by 1 inch and two single layers thick, 0.5 milliliter (in the case of liquids) or 0.5 gram (in the case of solids and semisolids) of the test substance. Dissolve solids in an appropriate solvent and apply the solution as for liquids. The animals are immobilized with patches secured in place by adhesive tape. The entire trunk of the animal is then wrapped with an impervious material, such as rubberized cloth, for the 24-hour period of exposure. This material aids in maintaining the test patches in position and retards the evaporation of volatile substances. After 24 hours of exposure, the patches are removed and the resulting reactions are evaluated on the basis of the designated values in the following table:

| Skin reaction | Value [1] |
|---|---|
| Erythema and eschar formation: | |
| No erythema | 0 |
| Very slight erythema (barely perceptible) | 1 |
| Well-defined erythema | 2 |
| Moderate to severe erythema | 3 |
| Severe erythema (beet redness) to slight eschar formations (injuries in depth) | 4 |
| Edema formation: | |
| No edema | 0 |
| Very slight edema (barely perceptible | 1 |
| Slight edema (edges of area well defined by definite raising) | 2 |
| Moderate edema (raised approximately 1 millimeter) | 3 |
| Severe edema (raised more than 1 millimeter and extending beyond the area of exposure) | 4 |

[1] The "value" recorded for each reading is the average value of the six or more animals subject to the test.

Readings are again made at the end of a total of 72 hours (48 hours after the first reading). An equal number of exposures are made on areas of skin that have been previously abraded. The abrasions are minor incisions through the stratum corneum, but not sufficiently deep to disturb the derma or to produce bleeding. Evaluate the reactions of the abraded skin at 24 hours and 72 hours, as described in this paragraph. Add the values for erythema and eschar formation at 24 hours and at 72 hours for intact skin to the values on abraded skin at 24 hours and at 72 hours (four values). Similarly, add the values for edema formation at 24 hours and at 72 hours for intact and abraded skin (four values). The total of the eight values is divided by four to give the primary irritation score; for example:

| Skin reaction | Exposure time (hours) | Evaluation value |
|---|---|---|
| Erythema and eschar formation: | | |
| Intact skin | 24 | 2 |
| Do | 72 | 1 |
| Abraded skin | 24 | 3 |
| Do | 72 | 2 |
| Subtotal | | 8 |
| Edema formation: | | |
| Intact skin | 24 | 0 |
| Do | 72 | 1 |
| Abraded skin | 24 | 1 |
| Do | 72 | 2 |
| Subtotal | | 4 |
| Total | | 12 |

Thus, the primary irritation score is $12 \div 4 = 3$.

### § 1500.42 Test for eye irritants.

(a) (1) Six albino rabbits are used for each test substance. Animal facilities for such procedures shall be so designed and maintained as to exclude sawdust, wood chips, or other extraneous materials that might produce eye irritation. Both eyes of each animal in the test group shall be examined before testing, and only those animals without eye defects or irritation shall be used. The animal is held firmly but gently until quiet. The test material is placed in one eye of each animal by gently pulling the lower lid away from the eyeball to form a cup into which the test substance is dropped. The lids are then gently held together for one second and the animal is released. The other eye, remaining untreated, serves as a control. For testing liquids, 0.1 milliliter is used. For solids or pastes, 100 milligrams of the test substance is used, except that for substances in flake, granule, powder, or other particulate form the amount that has a volume of 0.1 milliliter (after compacting as much as possible without crushing or altering the individual particles, such as by tapping the measuring container) shall be used whenever this volume weighs less than 100 milligrams. In such a case, the weight of the 0.1 milliliter test dose should be recorded. The eyes are not washed following instillation of test material except as noted below.

(2) The eyes are examined and the grade of ocular reaction is recorded at 24, 48, and 72 hours. Reading of reactions is facilitated by use of a binocular loupe, hand slit-lamp, or other expert means. After the recording of observations at 24 hours, any or all eyes may be further examined after applying fluorescein. For this optional test, one drop of fluorescein sodium ophthalmic solution U.S.P. or equivalent is dropped directly on the cornea. After flushing out the excess flourescein with sodium chloride solution U.S.P. or equivalent, injured areas of the cornea appear yellow; this is best visualized in a darkened room under ultraviolet illumination. Any or all eyes may be washed with sodium chloride solution U.S.P. or equivalent after the 24-hour reading.

(b) (1) An animal shall be considered as exhibiting a positive reaction if the test substance produces at any of the readings ulceration of the cornea (other than a fine stippling), or opacity of the cornea (other than a slight dulling of the normal luster), or inflamation of the iris (other than a slight deepening of the folds (or rugae) or a slight circumcorneal injection of the blood vessels), or if such substance produces in the conjunctivae (excluding the cornea and iris) an obvious swelling with partial eversion of the lids or a diffuse crimson-red with individual vessels not easily discernible.

(2) The test shall be considered positive if four or more of the animals in the test group exhibit a positive reaction. If only one animal exhibits a positive reaction, the test shall be regarded as negative. If two or three animals exhibit a positive reaction, the test is repeated using a different group of six animals. The second test shall be considered positive if three or more of the animals exhibit a positive reaction. If only one or two animals in the second test exhibit a positive reaction, the test shall be repeated with a different group of six animals. Should a third test be needed, the substance will be regarded as an irritant if any animal exhibits a positive response.

(c) To assist testing laboratories and other interested persons in interpreting the results obtained when a substance is tested in accordance with the method described in paragraph (a) of this section, an "Illustrated Guide for Grading Eye Irritation by Hazardous Substances" will be sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The guide will contain color plates depicting responses of varying intensity to specific test solutions. The grade of response and the substance used to produce the response will be indicated.

### § 1500.43 Method of test for flashpoint of volatile flammable materials by Tagliabue open-cup apparatus.

SCOPE

1. (a) This method describes a test procedure for the determination of open-cup flashpoints of volatile flammable materials having flashpoints below 175° F.

(b) This method, when applied to paints and resin solutions which tend to skin over or which are very viscous, gives less reproducible results than when applied to solvents.

OUTLINE OF METHOD

2. The sample is placed in the cup of a Tag Open Tester, and heated at a slow but constant rate. A small test flame is passed at a uniform rate across the cup at specified intervals. The flashpoint is taken as the lowest temperature at which application of the test flame causes the vapor at the surface of the liquid to flash, that is, ignite but not continue to burn.

APPARATUS

3. The Tag open-cup tester is illustrated in Fig. 1. It consists of the following parts, which must conform to the dimensions shown, and have the additional characteristics as noted:

(a) *Copper bath*, preferably equipped with a constant level overflow so placed as to maintain the bath liquid level ⅛ inch below the rim of the glass cup.

(b) *Thermometer holder*. Support firmly with ringstand and clamp.

(c) *Thermometer*. For flashpoints above 40° F., use the ASTM Tag Closed Tester Thermometer, range of +20 to +230° F., in 1° F. divisions, and conforming to thermometer 9F. of ASTM Standard E 1. For flashpoints from 20° F. to 40° F., use ASTM Tag Closed Tester, Low Range, Thermometer 57F. For flashpoints below 20° F., use ASTM Thermometer 33F. The original Tag Open-Cup (Paper Scale) Thermometer will be a permissible alternate until January 1, 1962. It is calibrated to —20° F.

(d) *Glass test cup*. Glass test cup (Fig. 2), of molded clear glass, annealed, heat-resistant, and free from surface defects.

(e) *Leveling device*. Leveling device or guide, for proper adjustment of the liquid level in the cup (Fig. 3). This shall be made of No. 18-gage polished aluminum, with a projection for adjusting the liquid level when the sample is added to exactly ⅛-inch below the level of the edge or rim of the cup.

(f) "Micro," or small gas burner of suitable dimensions for heating the bath. A screw clamp may be used to help regulate the gas. A small electric heater may be used.

(g) Ignition taper, which is a small straight, blow-pipe type gas burner. The test flame torch prescribed in the method of test for flash and fire points by Cleveland Open Cup (ASTM designation: D 92) is satisfactory.

(h) Alternative methods for maintaining the ignition taper in a fixed horizontal plane above the liquid may be used, as follows:

(1) Guide wire, 5/32-inch in diameter and 3½ inches in length, with a right-angle bend ½-inch from each end. This wire is placed snugly in holes drilled in the rim of the bath, so that the guide wire is 5/16-inch from the center of the cup and resting on the rim of the cup.

(2) Swivel-type taper holder, such as is used in ASTM METHOD D 92. The height and position of the taper are fixed by adjusting the holder on a suitable ringstand support adjacent to the flash cup.

(i) Draft shield, consisting of two rectangular sheets of noncombustible material, 24 inches x 28 inches, are fastened together along the 28-inch side, preferably by hinges. A triangular sheet, 24 inches x 24 inches x 34 inches is fastened by hinges to one of the lateral sheets (to form a top when shield is open). The interior of the draft shield shall be painted a flat black.

PROCEDURE

4. (a) Place the tester on a solid table free of vibration, in a location free of perceptible draft, and in a dim light.

(b) Run water, brine, or water-glycol solution into the bath to a predetermined level, which will fill the bath to ⅛-inch below the top when the cup is in place. An overflow is permissible for water-level control.

(c) Firmly support the thermometer vertically halfway between the center and edge of the cup on a diameter at right angles to the guide wire, or on a diameter passing through the center of the cup and the pivot of the taper. Place so that the bottom of the bulb is ¼-inch from the inner bottom surface of the cup. If the old Tagliabue thermometer is used, immerse to well cover the mercury bulb, but not the wide body of the thermometer.

(d) Fill the glass cup with the sample liquid to a depth just ⅛-inch below the edge, as determined by the leveling device.

(e) Place the guide wire or swivel device in position, and set the draft shield around the tester so that the sides form right angles with each other and the tester is well toward the back of the shield.

(f) If a guide wire is used, the taper, when passed, should rest lightly on the wire, with the end of the jet burner just clear of the edge of the guide wire. If the swivel-type holder is used, the horizontal and vertical positions of the jet are so adjusted that the jet passes on the circumference of a circle, having a radius of at least 6 inches, across the center of the cup at right angles to the diameter passing through the thermometer, and in a plane ⅛-inch above the upper edge of the cup. The taper should be kept in the "off" position, at one end or the other of the swing, except when the flame is applied.

(g) Light the ignition flame and adjust it to form a flame of spherical form matching in size the 5/32-inch sphere on the apparatus.

(h) Adjust heater source under bath so that the temperature of the sample increases at a rate of 2 ±0.5° F. per minute. With viscous materials this rate of heating cannot always be obtained.

INITIAL TEST

5. Determine an approximate flashpoint by passing the taper flame across the sample at intervals of 2° F. Each pass must be in one direction only. The time required to pass the ignition flame across the surface of the sample should be 1 second. Remove bubbles from the surface of the sample liquid before starting a determination. Meticulous attention to all details relating to the taper, size of taper flame, and rate of passing the taper is necessary for good results. When determining the flashpoint of viscous liquids and those liquids that tend to form a film of polymer, etc., on the surface, the surface film should be disturbed mechanically each time before the taper flame is passed.

RECORDED TESTS

6. Repeat the procedure by cooling a fresh portion of the sample, the glass cup, the bath solution, and the thermometer at least 20° F. below the approximate flashpoint. Resume heating, and pass the taper flame across the sample at two intervals of 5° F. and then at intervals of 2° F. until the flashpoint occurs.

REPORTING DATA

7. The average of not less than three recorded tests, other than the initial test, shall be used in determining the flashpoint and flammability of the substance.

STANDARDIZATION

8. (a) Make determinations in triplicate on the flashpoint of standard paraxylene and

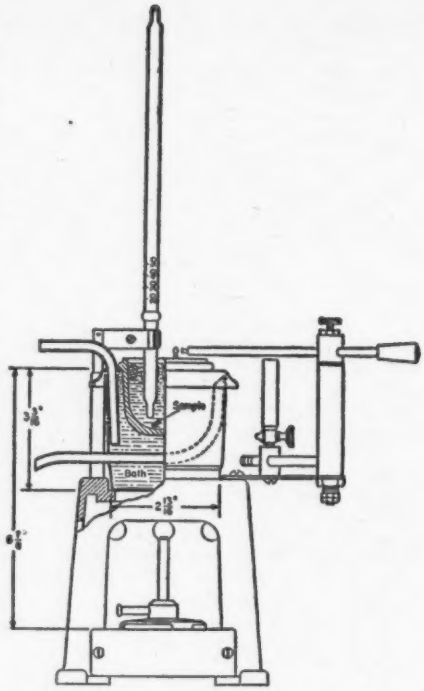



FIGURE 1—*Tag open-cup flash tester.*

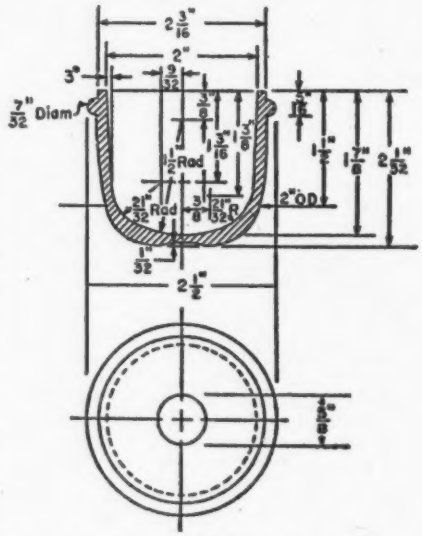



FIGURE 2—*Glass test cup.*

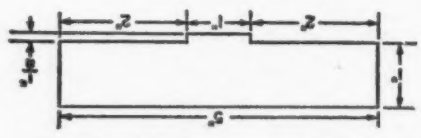


FIGURE 3—*Leveling device for adjusting liquid level in test cup.*

of standard isopropy alcohol which meet the following specifications:

(i) *Specifications for p-xylene, flashpoint check grade.* p-Xylene shall conform to the following requirements:

Specific gravity: 15.56° C./15.56° C., 0.860 minimum, 0.866 maximum.

Boiling range: 2° C. maximum from start to dry point when tested in accordance with the method of test for distillation of industrial aromatic hydrocarbons (ASTM designation: D 850), or the method of test for distillation range of lacquer solvents and diluents (ASTM designation: D 1078). The range shall include the boiling point of pure *p*-xylene, which is 138.35° C. (281.03° F.).

Purity: 95 percent minimum, calculated in accordance with the method of test for determination of purity from freezing points of high-purity compounds (ASTM designation: D 1016), from the experimentally determined freezing point, measured by the method of test for measurement of freezing points of high-purity compounds for evaluation of purity (ASTM designation: D 1015).

(ii) *Specifications for isopropanol, flashpoint check grade.* Isopropanol shall conform to the following requirements:

Specific gravity: 0.8175 to 0.8185 at 20° C./20° C. as determined by means of a calibrated pycnometer.

Distillation range: Shall entirely distill within a 1.0° C. range which shall include the temperature 80.4° C. as determined by ASTM method D 1078.

Average these values for each compound. If the difference between the values for these two compounds is less than 15° F. (8.5° C.) or more than 27° F. (16° C.), repeat the determinations or obtain fresh standards

(b) Calculate a correction factor as follows:

$$X = 92 - A$$
$$Y = 71 - B$$
$$\text{Correction} = \frac{X + Y}{2},$$

Where:

A = Observed flash of *p*-xylene, and
B = Observed flash of isopropyl alcohol.

Apply this correction of all determinations. Half units in correction shall be discarded.

PRECISION

9. (a) For hydrocarbon solvents having flashpoints between 60° F. and 110° F., repeatability is ±2° F. and the reproducibility is ±5° F.

(b) If results from two tests differ by more than 10° F., they shall be considered uncertain and should be checked. The calibration procedure provided in this method will cancel out the effect of barometric pressure if calibration and tests are run at the same pressure. Data supporting the precision are given in Appendix III of the 1956 Report of Committee D-1 on Paint, Varnish, Lacquers and Related Products, Proceedings, Am. Soc. Testing Mats., Vol. 56 (1956).

**§ 1500.44 Method for determining extremely flammable and flammable solids.**

(a) *Preparation of samples*—(1) *Granules, powders, and pastes.* Pack the sample into a flat, rectangular metal boat with inner dimensions 6 inches long x 1 inch wide x one-fourth inch deep.

(2) *Rigid and pliable solids.* Measure the dimensions of the sample and support it by means of metal ringstands, clamps, rings, or other suitable devices as needed, so that the major axis is oriented horizontally and the maximum surface is freely exposed to the atmosphere.

(b) *Procedure.* Place the prepared sample in a draft-free area that can be ventilated and cleared after each test. The temperature of the sample at the time of testing shall be between 68° F. and 86° F. Hold a burning paraffin candle whose diameter is at least 1 inch, so that the flame is in contact with the surface of the sample at the end of the major axis for 5 seconds or until the sample ignites, whichever is less. Remove the candle. By means of a stopwatch, determine the time of combustion with self-sustained flame. Do not exceed 60 seconds. Extinguish flame with a $CO_2$ or similar nondestructive type extinguisher. Measure the dimensions of the burnt area and calculate the rate of burning along the major axis of the sample.

**§ 1500.45 Method for determining extremely flammable and flammable contents of self-pressurized containers.**

(a) *Equipment required.* The test equipment consists of a base 8 inches wide, 2 feet long, marked in 6-inch intervals. A rule 2 feet long and marked in inches is supported horizontally on the side of the base and about 6 inches above it. A paraffin candle 1 inch or more in diameter, and of such height that the top third of the flame is at the height of the horizontal rule, is placed at the zero point in the base.

(b) *Procedure.* The test is conducted in a draft-free area that can be ventilated and cleared after each test. Place the self-pressurized container at a distance of 6 inches from the flame source. Spray for periods of 15 seconds to 20 seconds (one observer noting the extension of the flame and the other operating the container) through the top third of the flame and at a right angle to the flame. The height of the flame should be approximately 2 inches. Take three readings for each test, and average. As a precaution do not spray large quantities in a small, confined space. Free space of previously discharged material.

**§ 1500.46 Method for determining flashpoint of extremely flammable contents of self-pressurized containers.**

The apparatus used in the Tagliabue Open-Cup Flashpoint Apparatus as described in § 1500.43. Some means such as dry ice in an open container is used to chill the pressurized container. The container, the flash cup, and the bath solution of the apparatus (brine of glycol may be used) are chilled to a temperature of about 25° F. below zero. The chilled container is punctured to exhaust the propellant. The chilled formulation is transferred to the test apparatus and tested in accordance with the method described in § 1500.43.

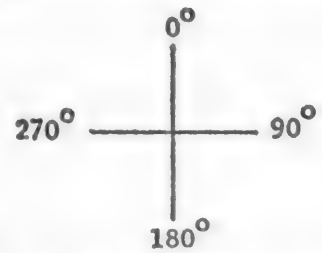
**§ 1500.47 Method for determining the sound pressure level produced by toy caps.**

(a) *Equipment required.* The equipment for the test includes a microphone, a preamplifier (if required), and an oscilloscope.

(1) The microphone-preamplifier system shall have a free-field response uniform to within ±2 decibels from 50 hertz to 70 kilohertz or beyond and a dynamic range covering the interval 70 to 160 decibels relative to 20 micronewtons per square meter. Depending on the model, the microphone shall be used at normal or at grazing incidence, whichever gives the most uniform free-field response. The microphone shall be calibrated both before and after the test of a model of cap. The calibration shall be accurate to within ±1 decibel. If the calibration is of the pressure type or of the pistonphone plus electrostatic actuator type, it shall be corrected to free-field conditions in accordance with the manufacturer's instructions.

(2) The oscilloscope shall be the storage type or one equipped with a camera. It shall have a response uniform to within ±1 decibel from 50 hertz to 250 kilohertz or higher. It shall be calibrated to within ±1 decibel against an external voltage source periodically during the tests.

(b) *Procedure.* (1) Use the type pistol that would ordinarily be used with the caps being tested. Place the pistol and testing equipment so that neither the pistol nor the microphone is closer than 1 meter from any wall, floor, ceiling, or other large obstruction. Locate the pistol and the microphone in the same horizontal plane with a distance of 25 centimeters between the diaphragm of the microphone and the position of the explosive. Measure the peak sound pressure level at each of the six designated orientations of the pistol with respect to the measuring microphone. The 0° orientation corresponds to the muzzle of the pistol pointing at the microphone. The 90°, 180°, and 270° orientations are measured in a clockwise direction when looking down on the pistol with its barrel horizontal, as illustrated by the following figure:




(2) The hammer and trigger orientations are obtained by rotating the pistol about the axis of the barrel, when the pistol is in the 90° or 270° orientation, so that the hammer and the trigger are each respectively closest to and in the same horizontal plane with the microphone.

(3) Fire 10 shots at each of the six orientations, obtaining readings on the oscilloscope of the maximum peak voltage for each shot. Average the results of the 10 firings for each of the six orientations.

(4) Using the orientation that yields the highest average value, convert the value to sound pressure levels in decibels relative to 20 micronewtons per square meter using the response to the calibrated measuring microphone.

**§ 1500.81 Exemptions for food, drugs, cosmetics, and fuels.**

(a) *Food, drugs, and cosmetics.* Substances subject to the Federal Food, Drug, and Cosmetic Act are exempted by section 2(f)(2) of the act; but where a food, drug, or cosmetic offers a substantial risk of injury or illness from any handling or use that is customary or usual it may be regarded as misbranded under the Federal Food, Drug, and Cosmetic Act because its label fails to reveal material facts with respect to consequences that may result from use of the article (21 U.S.C. 321(n)) when its label fails to bear information to alert the householder to this hazard.

(b) *Fuels.* A substance intended to be used as a fuel is exempt from the requirements of the act when in containers that are intended to be or are installed as part of the heating, cooling, or refrigeration system of a house. A portable container used for delivery or temporary or additional storage, and containing a substances that is a hazardous substance as defined in section 2(f) of the act, is not exempt from the labeling prescribed in section 2(p) of the act, even though it contains a fuel to be used in the heating, cooking, or refrigeration system of a house.

**§ 1500.82 Exemption from full labeling and other requirements.**

(a) Any person who believes a particular hazardous substance intended or packaged in a form suitable for use in the household or by children should be exempted from full label compliance otherwise applicable under the act, because of the size of the package or because of the minor hazard presented by the substance, or for other good and sufficient reason, may submit to the Commission a request for exemption under section 3(c) of the act, presenting facts in support of the view that full compliance is impracticable or is not necessary for the protection of the public health. The Commission shall determine on the basis of the facts submitted and all other available information whether the requested exemption is consistent with adequate protection of the public health and safety. If the Commission so finds, it shall detail the exemption granted and the reasons therefor by an appropriate order published in the FEDERAL REGISTER.

(b) The Commission may on its own initiative determine on the basis of facts available to it that a particular hazardous substance intended or packaged in a form suitable for use in the household or by children should be exempted from full labeling compliance otherwise applicable under the act because of the size of the package or because of the minor hazard presented by the substance or for other good and sufficient reason. If the Commission so finds, it shall detail the exemption granted and the reasons therefor by an appropriate order in the FEDERAL REGISTER.

(c) Any person who believes a particular article should be exempted from being classified as a "banned hazardous substance" as defined by section 2(q)(1)(A) of the act (repeated in § 1500.3(b)(15)(i)(A)), because its functional purpose requires inclusion of a hazardous substance, it bears labeling giving adequate directions and warnings for safe use, and it is intended for use by children who have attained sufficient maturity, and may reasonably be expected, to read and heed such directions and warnings, may submit to the Commission a request for exemption under section 2(q)(1)(B)(i) of the act (repeated in proviso (*1*) under § 1500.3(b)(15)(i)), presenting facts in support of his contention. The Commission shall determine on the basis of the facts submitted, and all other available information, whether the requested exemption is consistent with the purposes of the act. If the Commission so finds, it shall detail the exemption granted and the reasons therefor by an appropriate order in the FEDERAL REGISTER.

(d) On its own initiative, the Commission may determine on the basis of available facts that a particular banned hazardous substance should be exempted from section 2(q)(1)(A) of the act (repeated in § 1500.3(b)(15)(i)(A)), because its functional purpose requires inclusion of a hazardous substance, it bears labeling giving adequate directions and warnings for safe use, and it is intended for use by children who have obtained sufficient maturity, and may reasonably be expected, to read and heed such directions and warnings. It the Commission so finds, it shall detail the exemption granted and teh reasons therefor by an appropriate order in the FEDERAL REGISTER.

**§ 1500.83 Exemptions for small packages, minor hazards, and special circumstances.**

(a) The following exemptions are granted for the labeling of hazardous substances under the provisions of § 1500.82:

(1) When the sole hazard from a substance in a self-pressurized container is that it generates pressure or when the sole hazard from a substance is that it is flammable or extremely flammable, the name of the component which contributes the hazardous need not be stated.

(2) Common matches, including book matches, wooden matches, and so-called "safety" matches are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as they apply to the product being considered hazardous because of being "flammable" or "extremely flammable" as defined in § 1500.3(c)(6)(iii) and (iv).

(3) Paper items such as newspapers, wrapping papers, toilet and cleansing tissues, and paper writing supplies are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as they apply to the products being considered hazardous because of being "flammable" or "extremely flammable" as defined in § 1500.3(c)(6)(iii) and (iv).

(4) Thread, string, twine, rope, cord, and similar materials are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as they apply to the products being considered hazardous because of being "flammable" or "extremely flammable" as defined in § 1500.3(c)(6)(iii) and (iv).

(5) Laboratory chemicals intended only for research or investigational and other laboratory uses (except those in home chemistry sets) are exempt from the requirements of placement provided in § 1500.121 if all information required by that section and the act appears with the required prominence on the label panel adjacent to the main panel.

(6) Small-arms ammunition packaged in retail containers is exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) if such containers' labels bear the following:

(i) The common or usual name of the ammunition in the container;

(ii) The statement "Warning—Keep out of the reach of children," or its practical equivalent; and

(iii) The name and place of business of the manufacturer, packer, seller, or distributor.

The term "ammunition" as used in this subparagraph includes small-arms ammunition and loads for powder-actuated tools in a form ready for use in a pistol, revolver, rifle, shotgun, or powder-actuated tool, including blank cartridges and shells.

(7) Rigid or semirigid ballpoint ink cartridges are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), insofar as such requirements would be necessary because the ink contained therein is a "toxic" substance as defined in § 1500.3(c)(2)(i), if:

(i) The ballpoint ink cartridge is of such construction that the ink will, under any reasonably foreseeable conditions of manipulation or use, emerge only from the ballpoint end;

(ii) When tested by the method described in § 1500.3(c)(2)(i), the ink does not have an LD–50 single oral dose of less than 500 milligrams per kilogram of body weight of the test animal; and

(iii) The cartridge does not have a capacity of more than 2 grams of ink.

(8) Containers of paste shoe waxes, paste auto waxes, and paste furniture and floor waxes containing toluene (also known as toluol), xylene (also known as xylol), petroleum distillates, and/or turpentine in the concentratiens described in § 1500.14(a)(3) and (5) are exempt from the labeling requirements of § 1500.14(b)(3)(ii) and (5) if the vis-

cosity of such products is sufficiently high so that they will not flow from their opened containers when inverted for 5 minutes at a temperature of 80° F., and are exempt from bearing a flammability warning statement if the flammability of such waxes is due solely to the presence of solvents that have flashpoints above 80° F. when tested by the method described in § 1500.43.

(9) Porous-tip ink-marking devices are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) and from the labeling requirements of § 1500.14(b)(1), (2), and (3)(ii) and (iii) insofar as such requirements would be necessary because the ink contained therein is a toxic substance as defined in § 1500.3(c)(2)(i), and/or because the ink contains 10 percent or more by weight of toluene (also known as toluol), xylene (also known as xylol), or petroleum distillates as defined in § 1500.14(a)(3), and/or because the ink contains 10 percent or more by weight of ethylene glycol; provided that:

(i) The porous-tip ink-marking devices are of such construction that:

(A) The ink is held within the device by an absorbent material so that no free liquid is within the device; and

(B) Under any reasonably foreseeable conditions of manipulation and use, including reasonably foreseeable abuse by children, the ink will emerge only through the porous writing nib of the device; and

(ii)(A) The device has a capacity of not more than 10 grams of ink and the ink, when tested by methods described in § 1500.3(c)(2)(i), has an LD–50 single oral dose of not less than 2.5 grams per kilogram of body weight of the test animal; or

(B) The device has a capacity of not more than 12 grams of ink and the ink, when tested by methods described in § 1500.3(c)(2)(i), has an LD–50 single oral dose of not less than 3.0 grams per kilogram of body weight of the test animal.

(10) Viscous nitrocellulose-base adhesives containing more than 4 percent methyl alcohol by weight are exempt from the label statement "Cannot be be made nonpoisonous" required by § 1500.14(b)(4) if:

(i) The total amount of methyl alcohol by weight in the product does not exceed 15 percent; and

(ii) The contents of any container does not exceed 2 fluid ounces.

(11) Packages containing polishing or cleaning products which consist of a carrier of solid particulate or fibrous composition and which contain toluene (also known as toluol), xylene (also known as xylol), or petroleum distillates in the concentrations described in § 1500.14(a)(1) and (2) are exempt from the labeling requirements of § 1500.14(b)(3)(ii) if such toluene, xylene, or petroleum distillate is fully absorbed by the solid, semisolid, or fibrous carrier and cannot be expressed therefrom with any reasonably foreseeable conditions of manipulation.

(12) Containers of dry ink intended to be used as a liquid ink after the addition of water are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) and from the labeling requirements of § 1500.14(b)(1) and (2) insofar as such requirements would be necessary because the dried ink contained therein is a toxic substance as defined in § 1500.3(c)(2)(i) and/or because the ink contains 10 percent or more of ethylene glycol as defined in § 1500.14(a)(2); provided that:

(i) When tested by the method described in § 1500.3(c)(2)(i), the dry ink concentrate does not have an LD–50 (lethal dose, median; lethal for 50 percent or more of test group) single oral dose of less than 1 gram per kilogram of body weight of the test animal.

(ii) The dry ink concentrate enclosed in a single container does not weigh more than 75 milligrams.

(iii) The dry ink concentrate does not contain over 15 percent by weight of ethylene glycol.

(13) Containers of liquid and semisolid substances such as viscous-type paints, varnishes, lacquers, roof coatings, rubber vulcanizing preparations, floor covering adhesives, glazing compounds, and other viscous products containing toluene (also known as toluol), xylene (also known as xylol), or petroleum distillates in concentrations described in § 1500.14(a)(3) are exempt from the labeling requirements of § 1500.14(b)(3)(ii) insofar as that subdivision applies to such toluene, xylene, or petroleum distillates, provided that the viscosity of the substance or of any liquid that may separate or be present in the container is not less than 100 Saybolt universal seconds at 100° F.

(14) Customer-owned portable containers that are filled by retail vendors with gasoline, kerosene (kerosine), or other petroleum distillates are exempt from the provision of section 2(p)(1)(A) of the act (which requires that the name and place of business of the manufacturer, distributor, packer, or seller appear on the label of such containers) provided that all the other label statements required by section 2(p)(1) of the act and §1500.14(b)(3) appear on the labels of containers of the substances named in this subparagraph.

(15) Cellulose sponges are exempt from the labeling requirements of section 2(p)(1) of the act and § 1500.14(b)(1) insofar as such requirements would be necessary because they contain 10 percent or more of diethylene glycol as defined in § 1500.14(a)(1), provided that:

(i) The cellulose sponge does not contain over 15 percent by weight of diethylene glycol; and

(ii) The diethylene glycol content is completely held by the absorbent cellulose material so that no free liquid is within the sponge as marketed.

(16) Containers of substances which include salt (sodium chloride) as a component are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as such requirements would be necessary because the salt contained therein is present in a quantity sufficient to render the article "toxic" as defined in § 1500.3(3)(2)(i), provided that the labels of such containers bear a conspicuous statement that the product contains salt.

(17) The labeling of substances containing 10 percent or more of ferrous oxalate is exempt from the requirement of § 1500.129(f) that it bear the word "poison" which would be required for such concentration of a salt of oxalic acid.

(18) Packages containing articles intended as single-use spot removers, and which consist of a cotton pad or other absorbent material saturated with a mixture of drycleaning solvents, are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as they apply to the "flammable" hazard as defined in § 1500.3(c)(6)(iv), provided that:

(i) The article is packaged in a sealed foil envelope;

(ii) The total amount of solvent in each package does not exceed 4.5 milliliters; and

(iii) The article will ignite only when in contact with an open flame, and when so ignited, the article burns with a sooty flame.

(19) Packages containing articles intended as single-use spot removers, and which consist of a cotton pad or other absorbent material containing methyl alcohol, are exempt from the labeling requirements of § 1500.14(b)(4), if:

(i) The total amount of cleaning solvent in each package does not exceed 4.5 milliliters of which not more than 25 percent is methyl alcohol; and

(ii) The liquid is completely held by the absorbent materials so that no free liquid is within the packages marketed.

(20) Cigarette lighters containing petroleum distillate fuel are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) and § 1500.14(b)(3) insofar as such requirements would be necessary because the petroleum distillate contained therein is flammable and because the substance is named in § 1500.14(a)(3) as requiring special labeling, provided that:

(i) Such lighters contain not more than 10 cubic centimeters of fuel at the time of sale; and

(ii) Such fuel is contained in a sealed compartment that cannot be opened without the deliberate removal of the flush-set, screw-type refill plug of the lighter.

(21) Containers of dry granular fertilizers and dry granular plant foods are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as such requirements would be necessary because the fertilizer or plant food contained therein is a toxic substance as defined in § 1500.3(c)(2)(i), provided that:

(i) When tested by the method described in § 1500.3(c)(2)(i), the product has a single dose LD–50 of not less than

3.0 grams per kilogram of body weight of the test animal;

(ii) The label of any such exempt dry granular fertilizers discloses the identity of each of the hazardous ingredients;

(iii) The label bears the name and address of the manufacturer, packer, distributor, or seller; and

(iv) The label bears the statement "Keep out of the reach of children" or its practical equivalent.

(22) Small plastic capsules containing a paste composed of powdered metal solder mixed with a liquid flux are exempt from the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), if:

(i) The capsule holds not more than one-half milliliter of the solder mixture;

(ii) The capsule is sold only as a component of a kit; and

(iii) Adequate caution statements appear on the carton of the kit and on any accompanying labeling which bears directions for use.

(23) Chemistry sets and other science education sets intended primarily for use by juveniles, and replacement containers of chemicals for such sets, are exempt from the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), if:

(i) The immediate container of each chemical that is hazardous as defined in the act and regulations thereunder bears on its main panel the name of such chemical, the appropriate signal word for that chemical, and the additional statement "Read back panel before using" (or "Read side panel before using," if appropriate) and bears on the back (or side) panel of the immediate container the remainder of the appropriate cautionary statement for the specific chemical in the container;

(ii) The experiment manual or other instruction book or booklet accompanying such set bears on the front page thereof, as a preface to any written matter in it (or on the cover, if any there be), the following caution statement within the borders of a rectangle and in the type size specified in § 1500.121:

> WARNING—This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

; and

(iii) The outer carton of such set bears on the main display panel within the borders of a rectangle, and in the type size specified in § 1500.121, the caution statement specified in paragraph (a)(23)(ii) of this section.

(24) Fire extinguishers containing fire extinguishing agents which are stored under pressure or which develop pressure under normal conditions of use are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as such requirements apply to the pressure hazard as defined in § 1500.3(c)(7)(i), provided that:

(i) If the container is under pressure both during storage and under conditions of use, it shall be designed to withstand a pressure of at least 6 times the charging pressure at 70° F., except that carbon dioxide extinguishers shall be constructed and tested in accordance with applicable Interstate Commerce Commission specifications; or

(ii) If the container is under pressure only during conditions of use, it shall be designed to withstand a pressure of not less than 5 times the maximum pressure developed under closed nozzle conditions at 70° F. or 1½ times the maximum pressure developed under closed nozzle conditions at 120° F., whichever is greater.

(25) Cleaning and spot removing kits intended for use in cleaning carpets, furniture, and other household objects; kits intended for use in coating, painting, antiquing, and similarly processing furniture, furnishings, equipment, sidings, and various other surfaces; and kits intended for use in photographic color processing are exempt from the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) and from the requirements of § 1500.14, provided that:

(i) The immediate container of each hazardous substance in the kit is fully labeled and in conformance with the requirements of the act and regulations thereunder; and

(ii) The carton of the kit bears on the main display panel (or panels) within a borderline, and in the type size specified in § 1500.121, the caution statement "(Insert proper signal word as specified in paragraph (a)(25)(iii) of this section). This kit contains the following chemicals that may be harmful if misused: (List hazardous chemical components by name.) Read cautions on individual containers carefully. Keep out of the reach of children."

(iii) If either the word "POISON" or "DANGER" is required on the container of any component of the kit, the same word shall be required to appear as part of the caution statement on the kit carton. If both "POISON" and "DANGER" are required in the labeling of any component or components in the kit, the word "POISON" shall be used. In all other cases the word "WARNING" or "CAUTION" shall be used.

(26) Packages containing articles intended as single-use spot removers and containing methyl alcohol are exempt from the labeling specified in § 1500.14(b)(4), if:

(i) The total amount of cleaning solvent in each unit does not exceed 1 milliliter, of which not more than 40 percent is methyl alcohol;

(ii) The liquid is contained in a sealed glass ampoule enclosed in a plastic container with a firmly attached absorbent wick at one end through which the liquid from the crushed ampoule must pass, under the contemplated conditions of use; and

(iii) The labeling of each package of the cleaner bears the statement "WARNING—Keep out of the reach of children," or its practical equivalent, and the name and place of business of the manufacturer, packer, distributor, or seller.

(27) Packaged fireworks assortments intended for retail distribution are exempt from section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), if:

(i) The package contains only fireworks devices suitable for use by the public and designed primarily to produce visible effects by combustion, except that small devices designed to produce audible effects may also be included if the audible effect is produced by a charge of not more than 2 grains of pyrotechnic composition;

(ii) Each individual article in the assortment is fully labeled and in conformance with the requirements of the act and regulations thereunder; and

(iii) The outer package bears on the main display panel (or panels), within the borders of a rectangle and in the type size specified in § 1500.121, the caution statement "WARNING—This assortment contains items that may be hazardous if misused and should be used only under adult supervision. IMPORTANT—Read cautions on individual items carefully."

(28) Packages containing felt pads impregnated with ethylene glycol are exempt from the labeling requirements of § 1500.14(b)(1), if:

(i) The total amount of ethylene glycol in each pad does not exceed 1 gram; and

(ii) The liquid is held by the felt pad so that no free ethylene glycol is within the package.

(29) Cigarette lighters containing butane and/or isobutane fuel are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as such requirements would otherwise be necessary because the fuel therein is extremely flammable and under pressure, provided that:

(i) The lighters contain not more than 12 grams of fuel at the time of sale; and

(ii) The fuel reservoir is designed to withstand a pressure of at least 1½ times the maximum pressure which will be developed in the container at 120° F.

(30) The outer retail containers of solder kits each consisting of a small tube of flux partially surrounded by a winding of wire-type cadmium-free silver solder are exempt from the labeling requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), if:

(i) The metal solder contains no cadmium and is not otherwise hazardous under the provisions of the act;

(ii) The tube of flux in the kit is fully labeled and in conformance with the act and regulations thereunder, and any accompanying literature that bears directions for use also bears all the information required by section 2(p) of the act; and

(iii) The main panel of the outer container bears in type size specified in § 1500.121 the following: (A) the signal word; (B) a statement of principal hazard or hazards; (C) the statement "Keep out of the reach of children," or its practical equivalent; and (D) instructions

to read other cautionary instructions on the tube of flux within.

(31) Visual novelty devices consisting of sealed units, each of which unit is a steel and glass cell containing perchloroethylene (among other things), are exempt from the requirements of § 1500.121(a) that would otherwise require a portion of the warning statement to appear on the glass face of the device, provided that:

(i) The device contains not more than 105 milliliters of perchloroethylene and contains no other component that contributes substantially to the hazard; and

(ii) The following cautionary statement appears on the device (other than on the bottom) in the type size specified in § 1500.121 (c) and (d):

CAUTION—IF BROKEN, RESULTANT VAPORS MAY BE HARMFUL

Contains perchloroethylene. Do not expose to extreme heat. If broken indoors, open windows and doors until all odor of chemical is gone.

Keep out of the reach of children.

A practical equivalent may be substituted for the statement "Keep out of the reach of children."

(32) Hollow plastic toys containing mineral oil are exempt from the labeling specified in § 1500.14(b)(3)(ii), if:

(i) The article contains no other ingredient that would cause it to possess the aspiration hazard specified in § 1500.14(b)(3)(ii);

(ii) The article contains not more than 6 fluid ounces of mineral oil;

(iii) The mineral oil has a viscosity of at least 70 Saybolt universal seconds at 100° F.;

(iv) The mineral oil meets the specifications in the N.F. for light liquid petrolatum; and

(v) The container bears the statement "CAUTION—Contains light liquid petrolatum N.F. Discard if broken or leak develops."

(33) Containers of mineral oil having a capacity of not more than 1 fluid ounce and intended for use in producing a smoke effect for toy trains are exempt from the labeling specified in § 1500.14(b)(3)(ii), if:

(i) The mineral oil meets the specifications in the N.F. for light liquid petrolatum;

(ii) The mineral oil has a viscosity of at least 130 Saybolt universal seconds at 100° F.;

(iii) The article contains no other ingredient that contributes to the hazard; and

(iv) The label declares the presence light liquid petrolatum and the name and place of business of the manufacturer, packer, distributor, or seller.

(34) Viscous products containing more than 4 percent by weight of methyl alcohol, such as adhesives, asphalt-base roof and tank coatings, and similar products, are exempt from bearing the special labeling required by § 1500.14(b)(3)(ii), if:

(i) The product contains not more than 15 percent by weight of methyl alcohol;

(ii) The methyl alcohol does not separate from the other ingredients upon standing or through any foreseeable use or manipulation;

(iii) The viscosity of the product is not less than 7,000 centipoises at 77° F., unless the product is packaged in a pressurized container and is dispensed as a liquid unsuitable for drinking; and

(iv) The labeling bears the statement "Contains methyl alcohol. Use only in well-ventilated area. Keep out of the reach of children."

(35) Individual blasting caps are exempt from bearing the statement "Keep out of the reach of children," or its practical equivalent, if:

(i) Each cap bears conspicuously in the largest type size practicable the statement "DANGEROUS—BLASTING CAPS—EXPLOSIVE"; and

(ii) The outer carton and any accompanying printed matter bear appropriate, complete cautionary labeling.

(36) Individual toy rocket propellant devices and separate delay train and/or recovery system activation devices intended for use with premanufactured model rocket engines are exempt from bearing the full labeling required by section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) insofar as such requirements would be necessary because the articles are flammable or generate pressure, provided that:

(i) The devices are designed and constructed in accordance with the specifications in § 1500.85(a) (8) or (9);

(ii) Each individual device or retail package of devices bears the following:

(A) The statement "WARNING—FLAMMABLE: Read instructions before use";

(B) The common or usual name of the article;

(C) A statement of the type of engine and use classification;

(D) Instructions for safe disposal; and

(E) Name and place of business of manufacturer or distributor; and

(iii) Each individual rocket engine or retail package of rocket engines distributed to users is accompanied by an instruction sheet bearing complete cautionary labeling and instructions for safe use and handling of the individual rocket engines.

### § 1500.84 Exemption for unlabeled containers.

(a) Except as provided by paragraphs (b) and (c) of this section, a shipment or other delivery of a hazardous substance that, in accordance with the practice of the trade, is to be labeled in substantial quantity at an establishment other than that where originally manufactured or packed shall be exempt during the time of introduction into and movement in interstate commerce and during the time of holding in that establishment from compliance with the labeling requirements of section 2(p) of the act (repeated in § 1500.3(b)(14)) if:

(1) The person who introduced the shipment or delivery into interstate commerce is the operator of the establishment or delivery into interstate is to be received and labeled; or

(2) The person who introduced the shipment or delivery is not the operator, and the shipment or delivery is made to the establishment under a written agreement, signed by and containing the post office address of the person and the operator, and containing whatever specifications for the labeling of the hazardous substance that are necessary to insure, if such specifications are followed, that the hazardous substance will not be misbranded within the meaning of the act upon completion of the labeling. The person and the operator shall each keep a copy of the agreement until 2 years after the final shipment or delivery under the agreement has been completed and shall make copies of the agreement available for inspection upon request of any properly authorized officer or employee of the Commission.

(b) An exemption of a shipment or delivery of a hazardous substance under paragraph (a)(1) of this section shall, at the beginning of the act of removing the shipment or delivery or any part thereof from the establishment, become void ab initio if the hazardous substance comprising the shipment, delivery, or part is misbranded within the meaning of the act when so removed.

(c) An exemption of a shipment or delivery of a hazardous substance under paragraph (a)(2) of this section shall become void ab initio with respect to the person who introduced the shipment or delivery into interstate commerce upon refusal by that person to make available for inspection a copy of the agreement as required by paragraph (a)(2) of this section.

(d) An exemption of a shipment or other delivery of a hazardous substance under paragraph (a)(2) of this section shall expire:

(1) At the beginning of the act of removing the shipment or delivery, or any part thereof, from the establishment if the hazardous substance comprising the shipment, delivery, or part is misbranded within the meaning of the act when so removed; or

(2) Upon refusal by the operator of the establishment where the hazardous substance is to be labeled, to make available for inspection a copy of the agreement required by paragraph (a)(2) of this section.

### § 1500.85 Exemptions from classification as banned hazardous substances.

(a) The term "banned hazardous substances" as used in section 2(q)(1)(A) of the act shall not apply to the following articles provided that these articles bear labeling giving adequate directions and warnings for safe use:

(1) Chemistry sets and other science education sets intended primarily for juveniles, and replacement components for such sets, when labeled in accordance with § 1500.83(a)(23).

(2) Common fireworks devices suitable for use by the public (such as toy paper caps, cone fountains, cylinder fountains, whistles without report, and sparklers, but not including fireworks devices that may be confused with candy or other food, such as "dragon eggs" and

"crackerballs," also known as "ball-type caps"), if such devices are:

(i) Designed to produce only visible effects by combustion; or are

(ii) Designed to produce audible effects, if the audible effect is produced by a charge of not more than 2 grains of pyrotechnic composition.

(3) [Reserved]

(4) Educational materials such as art materials, preserved biological specimens, laboratory chemicals, and other articles intended and used for educational purposes.

(5) Liquid fuels containing more than 4 percent by weight of methyl alcohol that are intended and used for operation of miniature engines for model airplanes, boats, cars, etc.

(6) Novelties consisting of a mixture of polyvinyl acetate, U.S. Certified Colors, and not more than 25 percent by weight of acetone, and intended for blowing plastic balloons.

(7) Games containing, as the sole hazardous component, a self-pressurized container of soap solution or similar foam-generating mixture provided that the foam-generating component has no hazards other than being in a self-pressurized container.

(8) Model rocket propellant devices designed for use in light-weight, recoverable, and refiyable model rockets, provided such devices:

(i) Are designed to be ignited by eletrical means.

(ii) Contain no more than 62.5 grams (2.2 ounces) of propellant material and produce less than 80 newton-seconds (17.92 pound seconds) of total impulse with thrust duration not less than 0.050 second.

(iii) Are constructed such that all the chemical ingredients are preloaded into a cylindrical paper or similarly constructed nonmetallic tube that will not fragment into sharp, hard pieces.

(iv) Are designed so that they will not burst under normal conditions of use, are incapable of spontaneous ignition, and do not contain any type of explosive or pyrotechnic warhead other than a small parachute or recovery-system activation charge.

(9) Separate delay train and/or recovery system activation devices intended for use with premanufactured model rocket engines wherein all of the chemical ingredients are preloaded so the user does not handle any chemical ingredient and are so designed that the main casing or container does not rupture during operation.

(10) Solid fuel pellets intended for use in miniature jet engines for propelling model jet airplanes, speed boats, racing cars, and similar models, provided such solid fuel pellets:

(i) Weigh not more than 11.5 grams each.

(ii) Are coated with a protective resinous film.

(iii) Contain not more than 35 percent potassium dichromate.

(iv) Produce a maximum thrust of not more than 7½ ounces when used as directed.

(v) Burn not longer than 12 seconds each when used as directed.

(11) Fuses intended for igniting fuel pellets exempt under subparagraph (10) of this paragraph.

(12) Kits intended for construction of model rockets and jet propelled model airplanes requiring the use of difluorodichloromethane as a propellant, provided the outer carton bears on the main panel in conspicuous type size the statement "WARNING—Carefully read instructions and cautions before use."

(13) Flammable wire materials intended for electro-mechanical actuation and release devices for model kits described in subparagraph (12) of this paragraph, provided each wire does not exceed 15 milligrams in weight.

**§ 1500.86 Exemptions from classification as a banned toy or other banned article for use by children.**

(a) The term "banned hazardous substance" as used in section 2(q)(1)(A) of the act (repeated in § 1500.3(b)(15)(i)(A)) of the act shall not apply to the following articles:

(1) Toy rattles described in § 1500.18(a)(1) in which the rigid wires, sharp protrusions, or loose small objects are internal and provided that such rattles are constructed so that they will not break or deform to expose or release the contents either in normal use or when subjected to reasonably foreseeable damage or abuse.

(2) Dolls and stuffed animals and other similar toys described in § 1500.18(a)(3) in which the components that have the potential for causing laceration, puncture wound injury, or other similar injury are internal, provided such dolls, stuffed animals, and other similar toys are constructed so that they will not break or deform to expose such components either in normal use or when subjected to reasonably foreseeable damage or abuse.

(3) Lawn darts and similar sharp-pointed articles not intended for toy use and marketed solely as a game of skill for adults, provided such articles:

(i) Bear the following statement on the front of the panel of the carton and on any accompanying literature:

> WARNING: Not a toy for use by children. May cause serious or fatal injury. Read instructions carefully. Keep out of reach of children.

Such statement shall be printed in sharply contrasting color within a borderline and in letters at least one-quarter inch high on the main panel of the container and at least one-eighth inch high on all accompanying literature.

(ii) Include in the instructions and rules clear and adequate directions and warnings for safe use including a warning against use when any person or animal is in the vicinity of the intended plan or target area.

(iii) Are not sold by toy stores or store departments dealing predominantly in toys and other children's articles.

(4) Any article known as a "baby-bouncer," "walker-jumper," or "baby-walker" and any other similar article (referred to in this subparagraph as "article(s)") described in § 1500.18(a)(6) provided:

(i) The frames are designed and constructed in a manner to prevent injury from any scissoring, shearing, or pinching when the members of the frame or other components rotate about a common axis or fastening point or otherwise move relative to one another; and

(ii) Any coil springs which expand when the article is subjected to a force that will extend the spring to its maximum distance so that a space between successive coils is greater than one-eighth inch (0.125 inch) are covered or otherwise designed to prevent injuries; and

(iii) All holes larger than one-eighth inch (0.125 inch) in diameter and slots, cracks, or hinged components in any portion of the article through which a child could insert, in whole or in part, a finger, toe, or any other part of the anatomy are guarded or otherwise designed to prevent injuries; and

(iv) the articles are designed and constructed to prevent accidental collapse while in use; and

(v) The articles are designed and constructed in a manner that eliminates from any portion of the article the possibility of presenting a mechanical hazard through pinching, bruising, lacerating, crushing, breaking, amputating, or otherwise injuring portions of the human body when in normal use or when subjected to reasonably foreseeable damage or abuse; and

(vi) Any article which is introduced into interstate commerce after the effective date of this subparagraph is labeled:

(A) With a conspicuous statement of the name and address of the manufacturer, packer, distributor, or seller; and

(B) With a code mark on the article itself and on the package containing the article or on the shipping container, in addition to the invoice(s) or shipping document(s), which code mark will permit future identification by the manufacturer of any given model (the manufacturer shall change the model number whenever the article undergoes a significant structural or design modification); and

(vii) The manufacturer or importer of the article shall make, keep, and maintain for 3 years records of sale, distribution, and results of inspections and tests conducted in accordance with this subparagraph and shall make such records available at all reasonable hours upon request by ny officer or employee of the Consumer Product Safety Commission and shall permit such officer or employee to inspect and copy such records, to make such stock inventories as he deems necessary, and to otherwise check the correctness of such records.

(5) Clacker balls described in § 1500.18(a)(7) that have been designed, manufactured, assembled, labeled, and tested in accordance with the following requirements, and when tested at the point of

production or while in interstate commerce or while held for sale after shipment in interstate commerce do not exceed the failure rate requirements of the table in paragraph (a)(5)(vi) of this section:

(i) The toy shall be so designed and fabricated that:

(A) Each ball: Weighs less than 50 grams; will not shatter, crack, or chip; is free of cracks, flash (ridges due to imperfect molding), and crazing (tiny surface cracks); and is free of rough or sharp edges around any hole where the cord enters or over any surface with which the cord may make contact. Each ball is free of internal voids (holes, cavities, or air bubbles) if the balls are made of materials other than those materials (such as ABS (acrylonitrile butadiene styrene), nylon, and high-impact polystyrene) that are injection-molded and possess high-impact characteristics.

(B) The cord: Is of high tensile strength, synthetic fibers that are braided or woven, having a breaking strength in excess of 100 pounds; is free of fraying or any other defect that might tend to reduce its strength in use; is not molded in balls made of casting resins which tend to wick up or run up on the outside of the cord; and is affixed to a ball at the center of the horizontal plane of the ball when it is suspended by the cord.

(C) When the cord is attached to the ball by means of a knot, the end beneath the knot is chemically fused or otherwise treated to prevent the knot from slipping out or untying in use.

(ii) The toy shall be tested at the time of production:

(A) By using the sampling procedure described in the table in subdivision (vi) of this subparagraph to determine the number of units to be tested.

(B) By subjecting each ball tested to 10 drops of a 5-pound steel impact rod or weight (2¼-inch diameter with a flat head) dropped 48 inches in a vented steel or aluminum tube (2⅜-inch inside diameter) when the ball is placed on a steel or cast iron mount. Any ball showing any chipping, cracking, or shattering shall be counted as a failure within the meaning of the third column of the table in paragraph (a)(5)(vi) of this section.

(C) By inspecting each ball tested for smoothness of finish on any surface of the ball which may come in contact with the cord during use. A cotton swab shall be rubbed vigorously over each such surface or area of the ball; if any cotton fibers are removed, the ball shall be counted as a failure within the meaning of the fourth column of the table in subdivision (vi) of this subparagraph. The toy shall also be checked to ascertain that there is no visibly perceptible "wicking up" or "running up" of the casting resins on the outside of the cord in the vicinity where the ball is attached.

(D) By fully assembling the toy and testing the cord in such a manner as to test both the strength of the cord and the adequacy with which the cord is attached to the ball and any holding device such as a tab or ring included in the assembly. The fully assembled article shall be vertically suspended by one ball and a 100-pound test applied to the bottom ball. Any breaking, fraying, or unraveling of the cord or any sign of slipping, loosening, or unfastening shall be counted as a failure within the meaning of the fourth column of the table in paragraph (a)(5)(vi) of this section.

(E) By additionally subjecting any ring or other holding device to a 50-pound test load applied to both cords; the holding device is to be securely fixed horizontally in a suitable clamp in such a manner as to support 50 percent of the area of such holding device and the balls are suspended freely. Any breaking, cracking, or crazing of the ring or other holding device shall be counted as a failure within the meaning of the fourth column of the table in paragraph (a)(5)(vi) of this section.

(F) By cutting each ball tested in half and then cutting each half perpendicularly to the first cut into three or more pieces of approximately equal thickness. Each portion is to be inspected before and after cutting, and any ball showing any flash, crack, crazing, or internal voids on such inspection is to be counted as a failure within the meaning of the fourth column of the table in paragraph (a)(5)(vi) of this section. Balls that are injection-molded and possess high-impact characteristics (such as injection-molded balls made of ABS, nylon, or high-impact polystyrene) though exempt from the requirements that there be no internal voids, must be tested to determine the presence of any flash, crack or grazing. A transparent ball shall be subjected to the same requirements except that it may be visually inspected without cutting.

(iii) The toy shall be fully assembled for use at time of sale, including the proper attachments of balls, cords, knots, loops, or other holding devices.

(iv) The toy shall be labeled:

(A) With a conspicuous statement of the name and address of the manufacturer, packer, distributor, or seller.

(B) To bear on the toy itself and/or the package containing the toy and/or the shipping container, in addition to the invoice(s) and shipping document(s), a code or mark in a form and manner that will permit future identification of any given batch, lot, or shipment by the manufacturer.

(C) To bear a conspicuous warning statement on the main panel of the retail container and display carton and on any accompanying literature: That if cracks develop in a ball or if the cord becomes frayed or loose or unfastened, use of the toy should be discontinued; and if a ring or loop or other holding device is present, the statement "In use, the ring or loop must be placed around the middle finger and the two cords positioned over the forefinger and held securely between the thumb and forefinger," or words to that effect which will provide adequate instructions and warnings to prevent the holding device from accidentally slipping out of the hand. Such statements shall be printed in sharply contrasting color within a borderline and in letters at least one-quarter inch high on the main panel of the container and at least one-eighth inch high on all accompanying literature.

(v) The manufacturer of the toy shall make, keep, and maintain for 3 years records of sale, distribution, and results of inspections and tests conducted in accordance with this subparagraph and shall make such records available upon request at all reasonable hours by any officer or employee of the Consumer Product Safety Commission, and shall permit such officer or employee to inspect and copy such records and to make such inventories of stock as he deems necessary and otherwise to check the correctness of such records.

(vi) The lot size, sample size, and failure rate for testing clacker balls are as follows:

| Number of units in batch, shipment, delivery, lot, or rental stock | Number of units in random sample | Failure rate constituting rejection when testing per § 1500.86(a)(5)(ii)(B) | Failure rate constituting rejection when testing per §1500.86(a)(5)(ii)(C), (D), (E), and (F) |
|---|---|---|---|
| 50 or less | 8 | 1 | 1 |
| 51 to 90 | 13 | 1 | 1 |
| 91 to 150 | 20 | 1 | 1 |
| 151 to 280 | 32 | 1 | 2 |
| 281 to 500 | 50 | 1 | 2 |
| 501 to 1,200 | 80 | 2 | 4 |
| 1,201 to 3,200 | 125 | 2 | 6 |
| 3,201 to 10,000 | 200 | 3 | 10 |
| 10,001 to 35,000 | 315 | 4 | 16 |
| 35,001 to 150,000 | 500 | 6 | 25 |
| 150,001 to 500,000 | 800 | 8 | 40 |
| 500,001 and over | 1,250 | 11 | 62 |

(vii) Applicability of the exemption provided by this subparagraph shall be determined through use of the table in paragraph (a)(5)(vi) of this section. A random sample of the number of articles as specified in the second column of the table shall be selected according to the number of articles in a particular batch, shipment, delivery, lot, or retail stock per the first column. A failure rate as shown in either the third or fourth column shall indicate that the entire batch, shipment, delivery, lot, or retail stock has failed and thus is not exempted under this subparagraph from classification as a banned hazardous substance.

(6) Caps (paper or plastic) described in § 1500.18(a)(5), provided:

(i) Such articles do not produce peak sound pressure levels greater than 158 decibels when tested in accordance with § 1500.47, and provided any such articles producing peak sound pressure levels greater than 138 decibels but not greater than 158 decibels when tested in accord-

ance with § 1500.47 shall bear the following statement on the carton and in the accompanying literature in accordance with § 1500.121: "WARNING—Do not fire closer than 1 foot to the ear. Do not use indoors."

(ii) Any person who elects to distribute toy caps in accordance with paragraph (a)(6)(i) of this section shall promptly notify the Consumer Product Safety Commission, Bureau of Compliance, Washington, D.C. 20207, of their intention and shall conduct or participate in a program to develop caps that produce a sound pressure level of not more than 138 decibels when tested in accordance with § 1500.47.

(iii) Any person who elects to distribute caps in accordance with paragraph (a)(6)(i) of this section shall, after notification of his intentions to the Commission in accordance with paragraph (a)(6)(ii) of this section, submit to the Consumer Product Safety Commission, Bureau of Compliance, Washington, D.C. 20207, a progress report not less frequently than once every 3 months concerning the status of his program to develop caps that produce a sound level of not more than 138 decibels when tested in accordance with § 1500.47.

**§ 1500.121 Labeling requirements; placement, conspicuousness, and contrast.**

(a) The signal word, the statement of the principal hazard or hazards, and instructions to read carefully any cautionary information that may be placed elsewhere on the label shall appear together on the main panel of the label. Such information shall be placed together and distinctively apart from other wording or designs. The necessary prominence shall be achieved by placement within the borders of a square or rectangle with or without a borderline, and by use of suitable contrasts with the background achieved by distinctive typography or color, and by both color and typography when needed.

(b) If the product is "highly toxic" as defined in § 1500.3(c)(1), the labeling shall also include in conjunction with the word "poison" the skull and crossbones symbol. The word "poison" is not considered a signal word as that term is used in paragraph (a) of this section or when required by § 1500.14.

(c) The signal word and statement of hazard shall be in capital letters. The signal word (and the word "poison" if required) shall be of a size bearing a reasonable relationship to the other type on the main panel, but shall not be less than 18 point type, and the size of the statement of hazard shall not be less than 12 point type, unless the label space on the container is too small to accommodate such type size. When the size of the label space requires a reduction in type size, the reduction shall be made to a size no smaller than necessary and in no event to a size smaller than 6 point type.

(d) All the items of label information required by section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), or by regulations prescribing additional information under section 3(b) of the act, may appear on the main panel; but if they do not, all such items not required by paragraph (a) of this section to appear on the main panel shall be placed together in a distinctive place elsewhere on the label with adequate contrast achieved by typography, color, or layout, except that the name and place of business of the manufacturer, packer, distributor, or seller may appear separately on the same or on a different panel. The type size used shall bear a reasonable relationship to the printing on the panel involved and shall be no smaller than 10 point unless the available label space requires reductions, in which event it shall be reduced no smaller than 6 point type unless because of small label space an exemption has been granted under section 3(c) of the act and § 1500.83.

(e) Collapsible metal tubes containing hazardous substances shall be labeled so that all items of label information required by section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)), or by regulations prescribing additional information, shall appear as close to the dispensing end of the container as possible. The size, placement, and conspicuousness of these statements shall conform with paragraphs (a), (c), and (d) of this section.

(f) Unpackaged hazardous substances intended or in a form suitable for use in or around a household or by children shall be labeled so that all items of information required by the act or by regulations in this part shall appear upon the article itself. In instances where such labeling is impracticable because of the size or nature of the article, the required cautionary labeling must be displayed by means of a tag or other suitable material that is securely affixed to the article so that the labeling will remain attached throughout conditions of merchandising and distribution to the ultimate consumer. The size, placement, and conspicuousness of these statements shall conform with paragraphs (a), (c), and (d) of this section.

**§ 1500.122 Deceptive use of disclaimers.**

A hazardous substance shall not be deemed to have met the requirements of section 2(p)(1) and (2) of the act (repeated in § 1500.3(b)(14)(i) and (ii)) if there appears in or on the label (or in any accompanying literature; words, statements, designs, or other graphic material that in any manner negates or disclaims any of the label statements required by the act; for example, the statement "Harmless" or "Safe around pets" on a toxic or irritant substance.

**§ 1500.123 Condensation of label information.**

Whenever the statement of the principal hazard or hazards itself provides the precautionary measures to be followed or avoided, a clear statement of the principal hazard will satisfy the requirements of section 2(p)(1)(E) and (F) of the act (repeated in § 1500.3(b)(14)(i)(E) and (F)). When the statement of precautionary measures in effect provides instruction for first-aid treatment, the statement of the precautionary measures will satisfy the requirements of section 2(p)(1)(F) and (G) of the act (repeated in § 1500.3(b)(14)(i)(F) and (G)).

**§ 1500.125 Labeling requirements for accompanying literature.**

When any accompanying literature includes or bears any directions for use (by printed word, picture, design, or combination thereof), such placard, pamphlet, booklet, book, sign, or other graphic or visual device shall bear all the information required by section 2(p) of the act (repeated in § 1500.3(b)(14)).

**§ 1500.126 Substances determined to be "special hazards."**

Whenever the Commission determines that for a particular hazardous substance intended or packaged in a form suitable for use in the household or by children, the requirements of section 2(p) of the act (repeated in § 1500.3(b)(14)) are not adequate for the protection of the public health and safety because of some special hazard, the Commission, by an appropriate order in the FEDERAL REGISTER, shall specify such reasonable variations or additional label requirements that it finds are necessary for the protection of the public health and safety. Such order shall specify a date that is not less than 90 days after the order is published (unless emergency conditions stated in the order specify an earlier date) after which any such hazardous substance intended, or packaged in a form suitable, for use in the household or by children that fails to bear a label in accordance with such order shall be deemed to be a misbranded hazardous substance.

**§ 1500.127 Substances with multiple hazards.**

(a) Any article that presents more than one type of hazard (for example, if the article is both toxic and flammable) must be labeled with: An affirmative statement of each such hazard; the precautionary measures describing the action to be followed or avoided for each such hazard; instructions, when necessary or appropriate, for first-aid treatment of persons suffering from the ill effects that may result from each such hazard; instructions for handling and storage of articles that require special care in handling and storage because of more than one type of hazard presented by the article; and the common or usual name (or the chemical name if there is no common or usual name for each hazardous component present in the article.

(b) Label information referring to the possibility of one hazard may be combined with parallel information concerning any additional hazards presented by the article if the resulting condensed statement contains all of the information needed for dealing with each type of hazard presented by the article.

**§ 1500.128 Label comment.**

The Commission will offer informal comment on any proposed label and accompanying literature involving a hazardous substance if furnished with:

(a) Complete labeling or proposed labeling, which may be in draft form.

(b) Complete quantitative formula.

(c) Adequate clinical pharmacological, toxicological, physical, and chemical data applicable to the possible hazard of the substance.

(d) Any other information available that would facilitate preparation of a suitable label, such as complaints of injuries resulting from the product's use or other evidence that would furnish human-experience data.

**§ 1500.129 Substances named in the Federal Caustic Poison Act.**

The Commission finds that for those substances covered by the Federal Caustic Poison Act (44 Stat. 1406), the requirements of section 2(p)(1) of the Federal Hazardous Substances Act (repeated in § 1500.3(b)(14)(i)) are not adequate for the protection of the public health. Labeling for those substances, in the concentrations listed in the Federal Caustic Poison Act, were required to bear the signal word "poison." The Commission concludes that the lack of the designation "poison" would indicate to the consumer a lesser hazard and that such would not be in the interest of the public health. Under the authority granted in section 3(b) of the act, the Commission therefore finds that for the following substances, and at the following concentrations, the word "poison" is necessary instead of any signal word:

(a) Hydrochloric acid and any preparation containing free or chemically unneutralized hydrochloric acid (HCl) in a concentration of 10 percent or more.

(b) Sulfuric acid and any preparation containing free or chemically unneutralized sulfuric acid ($H_2SO_4$) in a concentration of 10 percent or more.

(c) Nitric acid or any preparation containing free or chemically unneutralized nitric acid ($HNO_3$) in a concentration of 5 percent or more.

(d) Carbolic acid ($C_6H_5OH$), also known as phenol, and any preparation containing carbolic acid in a concentration of 5 percent or more.

(e) Oxalic acid and any preparation containing free or chemically unneutralized oxalic acid ($H_2C_2O_4$) in a concentration of 10 percent or more.

(f) Any salt of oxalic acid and any preparation containing any such salt in a concentration of 10 percent or more.

(g) Acetic acid or any preparation containing free or chemically unneutralized acetic acid ($HC_2H_3O_2$) in a concentration of 20 percent or more.

(h) Hypochlorous acid, either free or combined, and any preparation containing the same in a concentration that will yield 10 percent or more by weight of available chlorine.

(i) Potassium hydroxide and any preparation containing free or chemically unneutralized potassium hydroxide (KOH), including caustic potash and vienna paste (vienna caustic), in a concentration of 10 percent or more.

(j) Sodium hydroxide and any preparation containing free or chemically unneutralized sodium hydroxide (NaOH), including caustic soda and lye in a concentration of 10 percent or more.

(k) Silver nitrate, sometimes known as lunar caustic, and any preparation containing silver nitrate ($AgNO_3$) in a concentration of 5 percent or more.

(l) Ammonia water and any preparation containing free or chemically uncombined ammonia ($NH_3$), including ammonium hydroxide and "hartshorn," in a concentration of 5 percent or more.

**§ 1500.130 Self-pressurized containers; labeling.**

(a) Self-pressurized containers that fail to bear a warning statement adequate for the protection of the public health and safety may be misbranded under the act, except as otherwise provided pursuant to section 3 of the act.

(b) The following warning statement will be considered as meeting the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) if the only hazard associated with an article is that the contents are under pressure:

WARNING—CONTENTS UNDER PRESSURE

Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120° F. Keep out of the reach of children.

The word "CAUTION" may be substituted for the word "WARNING". A practical equivalent may be substituted for the statement "Keep out of the reach of children."

(c) That portion of the warning statement set forth in paragraph (b) of this section in capital letters should be printed on the main (front) panel of the container in capital letters of the type size specified in § 1500.121(c). The balance of the cautionary statements may appear together on another panel if the front panel also bears a statement such as "Read carefully other cautions on ---------- panel."

(d) If an article has additional hazards, such as skin or eye irritancy, toxicity, or flammability, appropriate additional front and rear panel precautionary labeling is required.

**§ 1500.131 Methyl alcohol-base radiator antifreeze; labeling.**

(a) Methyl alcohol-base (methanol-base) radiator antifreeze distributed in containers intended or suitable for household use may be misbranded under the act if the containers fail to bear a warning statement adequate for the protection of the public health and safety, except as otherwise provided pursuant to section 3 of the act.

(b) The following warning statement will be considered as meeting the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) and § 1500.14(b)(4) with respect to methyl alcohol-base radiator antifreeze when the only hazard foreseeable is that caused by the methyl alcohol content and when the article has a flashpoint in the "flammable" range as that term is defined in section 2(l) of the act (repeated in § 1500.3(b)(10)):

DANGER—POISON

(SKULL AND CROSSBONES SYMBOL)

MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED

FLAMMABLE—VAPOR HARMFUL

Contains methyl alcohol (methanol). Cannot be made nonpoisonous. Avoid contact with eyes. Use only in a well-ventilated area. Keep away from heat and open flame. Do not store in open or unlabeled containers.

First aid: In case of contact with eyes flush thoroughly with water. If swallowed, induce vomiting (give a tablespoonful of salt in a glass of warm water). Repeat until vomit fluid is clear. Call a physician immediately.

Keep out of the reach of children.

(c) The words that are in capital letters in the warning statement set forth in paragraph (b) of this section should be printed on the main (front) panel or panels of the container in capital letters of the type size specified in § 1500.121(c), except that the word "Poison" and the skull and crossbones symbol may appear on another panel with the balance of the cautionary information. The balance of the cautionary statements may appear together on another panel provided the front panel bears a statement such as "Read carefully other cautions on ---------- panel."

**§ 1500.132 Ethylene glycol-base radiator antifreeze; labeling.**

(a) Ethylene glycol-base radiator antifreeze distributed in containers intended or suitable for household use may be misbranded under the act if the containers fail to bear a warning statement adequate for the protection of the public health and safety, except as otherwise provided pursuant to section 3 of the act.

(b) The following warning statements will be considered as meeting the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) and § 1500.14(b)(1) with respect to ethylene glycol-base radiator antifreeze, with and without added sodium arsenite of over 0.01 percent by weight, when the only hazard foreseeable is that caused by the ethylene glycol and (if present) the added sodium arsenite:

(1) Ethylene glycol antifreeze containing less than 0.01 percent by weight of sodium arsenite.

WARNING—HARMFUL OR FATAL IF SWALLOWED

Do not drink antifreeze or solution. If swallowed, induce vomiting immediately. Call a physician. Ethylene glycol base. Do not store in open or unlabeled containers. Keep out of the reach of children.

(2) Ethylene glycol antifreeze containing 0.01 percent but no more than 1 percent by weight of sodium arsenite.

WARNING—HARMFUL OR FATAL IF SWALLOWED

Do not drink antifreeze or solution. If swallowed, induce vomiting immediately. Call a physician. Ethylene glycol base containing sodium arsenite (less than 1%).

Antidote for sodium arsenite: Dimercaprol (BAL) to be administered only by a physician.

Do not store in open or unlabeled containers. Keep out of the reach of children.

(c) The words that are in capital letters in the warning statements set forth

in paragraph (b) of this section should be printed on the main (front) panel or panels of the container or capital letters of the type size specified in § 1500.121(c). The balance of the cautionary statements may appear together on another panel provided the front panel bears a statement such as "Read carefully other cautions on ---------- panel."

**§ 1500.133 Extremely flammable contact adhesives; labeling.**

(a) Extremely flammable contact adhesives, also known as contact bonding cements, when distributed in containers intended or suitable for household use may be misbranded under the act if the containers fail to bear a warning statement adequate for the protection of the public health and safety.

(b) The following warning statement is considered as the minimum cautionary labeling adequate to meet the requirements of section 2(p)(1) of the act (repeated in § 1500.3(b)(14)(i)) with respect to containers of more than one-half pint of contact adhesive and similar liquid or semiliquid articles having a flashpoint at or below 20° F. as determined by the method in § 1500.43, when the only hazard foreseeable is that caused by the extreme flammability of the mixture:

DANGER

EXTREMELY FLAMMABLE

VAPORS MAY CAUSE FLASH FIRE

Vapors may ignite explosively.

Prevent buildup of vapors—open all windows and doors—use only with cross-ventilation.

Keep away from heat, sparks, and open flame.

Do not smoke, extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors, and other sources of ignition during use and until all vapors are gone.

Close container after use.

Keep out of the reach of children.

(c) The words that are in capital letters in the warning statement set forth in paragraph (b) of this section should be printed on the main (front) panel or panels of the container in capital letters of the type size specified in § 1500.121(c). The balance of the cautionary information may appear together on another panel provided the front panel bears a statement such as "Read carefully other cautions on ------ panel," the blank being filled in with the identification of the specific label panel bearing the balance of the cautionary labeling. It is recommended that a borderline be used in conjunction with the cautionary labeling.

(d) If an article has additional hazards, or contains ingredients listed in § 1500.14 as requiring special labeling, appropriate additional front and rear panel precautionary labeling is required.

**§ 1500.201 Procedure for the issuance, amendment, or repeal of regulations declaring particular substances to be hazardous substances or banned hazardous substances.**

(a) The Commission may, upon its own initiative or upon the petition of any interested person, showing reasonable grounds therefor, propose the issuance, amendment, or repeal of any regulation provided for in section 3(a) or 2(q) of the act, declaring particular substances to be hazardous substances or banned hazardous substances. The proposal shall be published in the FEDERAL REGISTER, with an invitation for written comments. As soon as practicable after the comments have been received, the Commission shall by order act upon such proposal to declare the substance to be a hazardous substance or banned hazardous substance for purposes of the act, or to amend or repeal any regulation previously issued.

(b) Within 30 days after publication of such order, any person who will be adversely affected thereby, if placed in effect, may file objections and a request for a public hearing. The objections shall not be accepted for filing if they fail to establish that the objector will be adversely affected by the regulation, if the objections do not specify with particularity the provisions of the regulation to which objection is taken, or if the objections do not state reasonable grounds. Reasonable grounds are grounds from which it is reasonable to conclude that facts can be established by reliable evidence at the hearing which will call for changing the provisions specified in the objections. Whenever legally valid objections have been filed, a public hearing on the objections will be held.

(c) As soon as practicable after the time for filing objections has expired, the Commission shall publish a notice in the FEDERAL REGISTER specifying the parts of the order that have been stayed by proper objections, or, if no objections have been filed, stating that fact.

(d) [Reserved]

(e) If the Commission finds that the distribution of a hazardous substance presents an imminent hazard to the public health, the Commission, by order in the FEDERAL REGISTER, will give notice of such finding and, pursuant to section 2(q)(2) of the act, declare such substance, when intended or offered for household use or when so packaged as to be suitable for such use, to be a "banned hazardous substance" pending completion of statutory proceedings relating to the issuance of such regulations.

(f) The General Counsel of the Commission is the designated officer upon whom a copy of any petition for judicial review shall be served. Said officer is responsible for filing in court the record on which the order of the Commission is based in accordance with 28 U.S.C. 2112.

**§ 1500.210 Responsibility.**

The provisions of these regulations (16 CFR, Subchapter C of Chapter II) with respect to the doing of any act shall be applicable also to the causing of such act to be done.

**§ 1500.211 Guaranty.**

In the case of the giving of a guaranty or undertaking referred to in section 5(b)(2) of the act, each person signing such guaranty or undertaking, or causing it to be signed, shall be considered to have given it. Each person causing a guaranty or undertaking to be false is chargeable with violations of section 4(d) of the act.

**§ 1500.212 Definition of guaranty; suggested forms.**

(a) A guaranty or undertaking referred to in section 5(b)(2) of the act may be:

(1) Limited to a specific shipment or other delivery of an article, in which case it may be a part of or attached to the invoice or bill of sale covering such shipment or delivery; or

(2) General and continuing, in which case, in its application to any shipment or other delivery of an article, it shall be considered to have been given at the date such article was shipped or delivered, or caused to be shipped or delivered, by the person who gives the guaranty or undertaking.

(b) The following are suggested forms of guaranty or undertaking referred to in section 5(b)(2) of the act.

(1) *Limited form for use on invoice or bill of sale.*

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(Name of person giving the guaranty or undertaking)

hereby guarantees that no article listed herein is misbranded within the meaning of the Federal Hazardous Substances Act.

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(Signature and post-office address of person giving the guaranty or undertaking)

(2) *General and continuing forms.*

The article comprising each shipment or other delivery hereafter made by ----------

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(Name of person giving the guaranty or undertaking)

to, or on the order of ----------

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(Name and post-office address of person to whom the guaranty or undertaking is given) is hereby guaranteed, as of the date of such shipment or delivery, to be, on such date, not misbranded within the meaning of the Federal Hazardous Substances Act.

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(Signature and post-office address of person giving the guaranty or undertaking)

(c) The application of a guaranty or undertaking referred to in section 5(b)(2) of the act to any shipment or other delivery of an article shall expire when such article, after shipment or delivery by the person who gave such guaranty or undertaking, becomes misbranded within the meaning of the act.

**§ 1500.213 Presentation of views under section 7 of the act.**

(a) Presentation of views under section 7 of the act shall be private and informal. The views presented shall be confined to matters relevant to the contemplated proceeding. Such views may be presented by letter or in person by the person to whom the notice was given, or by his representative. In case

such person holds a guaranty or undertaking referred to in section 5(b)(2) of the act applicable to the article on which such notice was based, such guaranty or undertaking, or a verified copy thereof, shall be made a part of such presentation of views.

(b) Upon request, reasonably made, by the person to whom a notice appointing a time and place for the presentation of views under section 7 of the act has been given, or by his representative, such time or place, or both such time and place, may be changed if the request states reasonable grounds therefor. Such request shall be addressed to the office of the Consumer Product Safety Commission that issued the notice.

**§ 1500.214 Examinations and investigations; samples.**

When any officer or employee of the Commission collects a sample of a hazardous substance for analysis under the act, the sample shall be designated as an official sample if records or other evidence is obtained by him or any other officer or employee of the Commission indicating that the shipment or other lot of the article from which such sample was collected was introduced or delivered for introduction into interstate commerce, or was in or was received in interstate commerce, or was manufactured within a Territory not organized with a legislative body. Only samples so designated by an officer or employee of the Commission shall be considered to be official samples

(a) For the purpose of determining whether or not a sample is collected for analysis, the term "analysis" includes examinations and tests.

(b) The owner of a hazardous substance of which an official sample is collected is the person who owns the shipment or other lot of the article from which the sample is collected.

IMPORTS

**§ 1500.265 Imports; definitions.**

For the purposes of the regulations prescribed under section 14 of the act:

(a) The term "owner or consignee" means the person who has the rights of a consignee under the provisions of the Tariff Act of 1930 (secs. 483, 484, 485, 46 Stat. 721 as amended; 19 U.S.C. 1483, 1484, 1485).

(b) The term "area office director" means the director of the area office of the Consumer Product Safety Commission having jurisdiction over the port of entry through which a hazardous substance is imported or offered for import, or such officer of the area office as he may designate to act in his behalf in administering and enforcing the provisions of section 14 of the act.

**§ 1500.266 Notice of sampling.**

When a sample of a hazardous substance offered for import has been requested by the director of the area office, the collector of customs having jurisdiction over the hazardous substance shall give to the owner or consignee prompt notice of delivery of, or intention to deliver, such sample. Upon receipt of the notice, the owner or consignee shall hold such hazardous substance and not distribute it until further notice from the area office director or the collector of customs of the results of examination of the sample.

**§ 1500.267 Payment for samples.**

The Consumer Product Saftey Commission will pay for all import samples that are found to be in compliance with the requirements of the act. Billing for reimbursement should be made by the owner or consignee to the Commission area office headquarters in the territory of which the shipment was offered for import. Payment for samples will not be made if the hazardous substance is found to be in violation of the act, even though subsequently brought into compliance under the terms of an authorization to bring the article into compliance.

**§ 1500.268 Hearing.**

(a) If it appears that the hazardous substance may be subject to refusal of admission, the area office director shall give the owner or consignee a written notice to that effect, stating the reasons therefor. The notice shall specify a place and a period of time during which the owner or consignee shall have an opportunity to introduce testimony. Upon timely request, giving reasonable grounds therefor, such time and place may be changed. Such testimony shall be confined to matters relevant to the admissibility of the hazardous substance, and may be introduced orally or in writing.

(b) If such owner or consignee submits or indicates his intention to submit an application for authorization to relabel or perform other action to bring the hazardous substance into compliance with the act, such testimony shall include evidence in support of such application. If such application is not submitted at or prior to the hearing, the area office director shall specify a time limit, reasonable in the light of the circumstances, for filing such application.

**§ 1500.269 Application for authorization.**

Application for atuhorization to relabel or perform other action to bring the hazardous substance into compliance with the act may be filed only by the owner or consignee and shall:

(a) Contain detailed proposals for bringing the article into compliance with the act.

(b) Specify the time and place where such operations will be carried out and the approximate time for their completion.

**§ 1500.270 Granting of authorization.**

(a) When authorization contemplated by § 1500.269 is granted, the area office director shall notify the applicant in writing, specifying:

(1) The procedure to be followed:

(2) That the operations are to be carried out under the supervision of an officer of the Consumer Product Safety Commission or the Bureau of Customs, as the case may be;

(3) A time limit, reasonable in the light of the circumstances, for completion of the operations; and

(4) Such other conditions as are necessary to maintain adequate supervision and control over the article.

(b) Upon receipt of a written request for extension of time to complete such operations, containing reasonable grounds therefor, the area office director may grant such additional time as he deems necessary.

(c) An authorization may be amended upon a showing of reasonable grounds therefor and the filing of an amended application for authorization with the area office director.

(d) If ownership of a hazardous substance covered by an authorization changes before the operations specified in the authorization have been completed, the original owner will be held responsible, unless the new owner has executed a bond and obtained a new authorization. Any authorization granted under this section shall supersede and nullify any previously granted authorization with respect to the article.

**§ 1500.271 Bonds.**

(a) The bonds required under section 14(b) of the act may be executed by the owner or consignee on the appropriate form of a customs single-entry or term bond, containing a condition for the redelivery of the merchandise or any part thereof upon demand of the collector of customs and containing a provision for the performance of conditions as may legally be imposed for the relabeling or other action necessary to bring the hazardous substance into compliance with the act in such manner as is prescribed for such bond in the customs regulations in force on the date of request for authorization. The bond shall be filed with the collector of customs.

(b) The collector of customs may cancel the liability for liquidated damages incurred under the above-mentioned provisions of such a bond, if he receives an application for relief therefrom, upon the payment of a lesser amount or upon such other terms and conditions as shall be deemed appropriate under the law and in view of the circumstances, but the collector shall not act under this regulation in any case unless the area office director is in full agreement with the action.

**§ 1500.272 Costs chargeable in connection with relabeling and reconditioning inadmissible imports.**

The cost of supervising the relabeling or other action necessary in connection with an import of a hazardous substance that fails to comply with the act shall be paid by the owner or consignee who files an application requesting such action and executes a bond, pursuant to section 14(b) of the act. The cost of such supervision shall include, but not be restricted to, the following:

(a) Travel expenses of the supervising officer.

(b) Per diem in lieu of subsistence of the supervising officer when away from his home station as provided by law.

(c) Services of the supervising officer, to be calculated at a flat rate of $8 per hour (which shall include administrative expense), except that such services performed by a customs officer and subject to the provisions of the Act of February 13, 1911, as amended (sec. 5, 36 Stat. 901 as amended; 19 U.S.C. 267), shall be calculated as provided in that act.

(d) Services of analyst, to be calculated at a flat rate of $10 per hour (which shall include the use of the chemical laboratories and equipment of the Consumer Product Safety Commission.

(e) The minimum charge for services of supervising officers and of analysts shall be not less than the charge for 1 hour, and time after the first hour shall be computed in multiples of 1 hour, disregarding fractional parts less than one-half hour.

## PART 1505—REQUIREMENTS FOR ELECTRICALLY OPERATED TOYS OR OTHER ELECTRICALLY OPERATED ARTICLES INTENDED FOR USE BY CHILDREN

Sec.

1505.1 Definitions.
1505.2 Scope of part.
1505.3 Labeling.
1505.4 Manufacturing requirements.
1505.5 Electrical design and construction.
1505.6 Performance.
1505.7 Maximum acceptable surface temperatures.
1505.8 Maximum acceptable material temperatures.

AUTHORITY.—Secs. 2(f)(1)(D), (r), (s), (t), 3(e)(1), 74 Stat. 372, 374, 375, as amended 83 Stat. 187–89 (15 U.S.C. 1261, 1262).

NOTE.—This Part 1505 was originally promulgated as 21 CFR Part 191b in the FEDERAL REGISTER of March 7, 1973 (38 FR 6138), with an effective date of September 3, 1973.

### § 1505.1 Definitions.

(a) The following definitions apply to this Part 1505:

(1) The term "electrically operated toy or other electrically operated article intended for use by children" means any toy, game, or other article designed, labeled, advertised, or otherwise intended for use by children which is intended to be powered by electrical current from nominal 120 volt (110–125 v.) branch circuits. Such articles are referred to in this part in various contexts as "toy" or "electrically operated toy." If the package (including packing materials) of the toy or other article is intended to be used with the product, it is considered to be part of the toy or other article. This definition does not include components which are powered by circuits of 30 volts r.m.s. (42.4 volts peak) or less, or articles designed primarily for use by adults which may be used incidentally by children.

### § 1505.2 Scope of part.

This part sets forth the requirements whereby electrically operated toys and other electrically operated articles intended for use by children (as defined in § 1505.1(a)(1)) are not banned toys or banned articles under § 1500.18(b)(1) of this chapter.

### § 1505.3 Labeling.

(a) *General.* Electrically operated toys, and the instruction sheets and outer packaging thereof, shall be labeled in accordance with the requirements of this section and any other applicable requirements of the Federal Hazardous Substances Act and regulations promulgated thereunder. All labeling shall be prominently and conspicuously displayed under customary conditions of purchase, storage, and use. All required information shall be readily visible, noticeable, clear, and, except where coding is permitted, shall be in legible English (other languages may also be included as appropriate). Such factors governing labeling as location, type size, and contrast against background may be based on necessary condensations to provide a reasonable display.

(b) *Specific items.* (1) The toy shall be marked in accordance with the provisions of paragraph (d) of this section to indicate:

(i) The electrical ratings required by paragraph (c) of this section.

(ii) Any precautionary statements required by paragraph (e) of this section.

(2) The shelf pack or package of the toy shall be labeled in accordance with the provisions of paragraph (d) of this section to indicate:

(i) The date (month and year) of manufacture (or appropriate codes).

(ii) The electrical ratings required by paragraph (c) of this section.

(iii) Any precautionary statements required by paragraph (e) of this section.

(3) Each toy shall be provided with adequate instructions that are easily understood by children of those ages for which the toy is intended. The instructions shall describe the applicable installation, assembly, use, cleaning, maintenance (including lubrication), and other functions as appropriate. Applicable precautions shall be included as well as the information required by paragraphs (b)(1) and (2) of this section. The instructions shall also contain a statement addressed to parents recommending that the toy be periodically examined for potential hazards and that any potentially hazardous parts be repaired or replaced.

(4) If a toy is produced or assembled at more than one establishment, the toy and its shelf pack or package shall have a distinctive mark (which may be in code) identifying the toy as the product of a particular establishment.

(c) *Rating.* (1) A toy shall be marked to indicate its rating in volts and also in amperes and/or watts.

(2) If a toy utilizes a single motor as its only electric energy consuming component, the electrical rating may be marked on a motor nameplate and need not be marked elsewhere on the toy if the nameplate is readily visible after the motor has been installed in the toy.

(3) A toy shall be rated for alternating current only, direct current only, or both alternating and direct current.

(4) The alternating current rating shall include the frequency or frequency range requirement, if necessary because of a special component.

(d) *Markings.* (1) The markings required on the toy by paragraph (b) of this section shall be of a permanent nature, such as paint-stenciled, die-stamped, molded, or indelibly stamped. The markings shall not be permanently obliterable by spillage of any material intended for use with the toy and shall not be readily removable by cleaning with ordinary household cleaning substances. All markings on the toy and labeling of the shelf pack or package required by paragraph (b) of this section shall contrast sharply with the background (whether by color, projection, or indentation) and shall be readily visible and legible. Such markings and labeling shall appear in lettering of a height not less than that specified in paragraph (d)(2) of this section, except that those words shown in capital letters in paragraph (e) of this section shall appear in capital lettering of a height not less than twice that specified in paragraph (d)(2) of this section.

(2) Minimum lettering heights shall be as follows:

SURFACE AREA DISPLAYING MARKING, MINIMUM HEIGHT OF LETTERING

| *Square inches* | *Inches* |
|---|---|
| Under 5 | 1/16 |
| 5 or more and under 25 | 1/8 |
| 25 or more and under 100 | 3/16 |
| 100 or more and under 400 | 1/4 |
| 400 or more | 1/2 |

(e) *Precautionary statements*—(1) *General.* Electrically operated toys shall bear the statement: "CAUTION—ELECTRIC TOY." The shelf pack or package and the instructions of such toys shall bear the statement in the upper right-hand quarter of the principal display panel: "CAUTION—ELECTRIC TOY: Not recommended for children under ____ years of age. As with all electric products, precautions should be observed during handling and use to prevent electric shock." The blank in the preceding statement shall be filled in by the manufacturer, but in no instance shall the manufacturer indicate that the article is recommended for children under 8 years of age if it contains a heating element. In the case of other electrically operated products which may not be considered to be "toys" but are intended for use by children, the term "ELECTRICALLY OPERATED PRODUCT" may be substituted for the term "ELECTRIC TOY."

(2) *Thermal hazards.* (i) Toys having Type C or Type D surfaces (described in § 1505.6(g)(2)) which reach temperatures greater than those shown in paragraph (e)(2)(ii) of this section shall be defined as hot and shall be marked where readily noticeable when the hot surface is in view with the statement: "HOT—Do Not Touch." When the marking is on other than the hot surface, the word "HOT" shall be followed by appropriate descriptive words such as "Molten Material," "Sole Plate," or "Heating Element," and the statement "Do Not Touch." An alternative statement for a surface intended to be handheld as a functional part of the toy shall be "HOT _____—Handle Carefully," the blank being filled in by the manufacturer with a descrip-

tion of the potential hazard such as "Curler" or "Cooking Surface."

(ii) Surfaces requiring precautionary statements of thermal hazards are those exceeding the following temperatures when measured by the test described in § 1505.6(g)(4):

| Surface type (see § 1505.6 (g)(2)) | Thermal inertia type [1] | Temperature | |
|---|---|---|---|
| | | Degrees C. | Degrees F. |
| C | 1 | 65 | 149 |
| C | 2 | 75 | 167 |
| C | 3 | 85 | 185 |
| C | 4 | 95 | 203 |
| D | 1 | 55 | 131 |
| D | 2 | 70 | 158 |
| D | 3 | 80 | 176 |
| D | 4 | 90 | 194 |

[1] Thermal inertia types are defined in terms of lambda as follows:

Type 1: Greater than 0.0045 (e.g., most metals).
Type 2: More than 0.0005 but not more than 0.0045 (e.g., glass).
Type 3: More than 0.0001 but not more than 0.0005 (e.g., most plastics).
Type 4: 0.0001 or less (e.g., future polymeric materials).
The thermal inertia of a material can be obtained by multiplying the thermal conductivity (cal./cm./sec./degrees C.) by the density (gm./cm.$^3$) by the specific heat (cal./gm./degrees C.)

(3) *Lamp hazards*—(i) *Replaceable incandescent lamps.* A toy with one or more replaceable incandescent lamps, having a potential difference of more than 30 volts r.m.s. (42.4 volts peak) between any of its electrodes or lampholder contacts and any other part or ground, shall be marked inside the lamp compartment where readily noticeable during lamp replacement with the statement: "WARNING—Do not use light bulbs larger than —— watts", the blank being filled in by the manufacturer with a number specifying the wattage rating of the lamp. Such toys shall bear the statement: "WARNING—Shock Hazard. Pull plug before changing light bulb" on the outside of the lamp compartment where it will be readily noticed before gaining access to the lamp compartment.

(ii) *Nonreplacement incandescent lamps.* A toy which utilizes one or more nonreplaceable incandescent lamps (other than pilot or indicator lamps) shall be marked where clearly visible with the statement: "SEALED UNIT—Do not attempt to change light bulb" or equivalent.

(4) *Water.* If not suitable for immersion in water, a toy cooking appliance (such as a corn popper, skillet, or candymaker) or other article which may conceivably be immersed in water shall be marked with the statement: "DANGER—To prevent electric shock, do not immerse in water; wipe clean with damp cloth" or equivalent.

**§ 1505.4 Manufacturing requirements.**

(a) *General.* (1) Only materials safe and suitable for the particular use for which the electrically operated toy is intended shall be employed.

(2) Toys shall be produced in accordance with detailed material specifications, production specifications, and quality assurance programs. Quality assurance programs shall be established and maintained by each manufacturer to assure compliance with all requirements of this part.

(3) The manufacturer or importer shall keep and maintain for 3 years after production or importation of each lot of toys (i) the material and production specifications and the description of the quality assurance program required by paragraph (a)(2) of this section, (ii) the results of all inspections and tests conducted, and (iii) records of sale and distribution. These records shall be made available upon request at reasonable times to any officer or employee of the Consumer Product Safety Commission. The manufacturer or importer shall permit such officer or employee to inspect and copy such records, to make such inventories of stock as he deems necessary, and to otherwise verify the accuracy of such records.

(4) Toys shall be constructed and finished with a high degree of uniformity and as fine a grade of workmanship as is practicable in a well-equipped manufacturing establishment. Each component of a toy shall comply with the requirements set forth in this part.

(b) [Reserved]

(c) *Protective coatings.* Iron and steel parts shall be suitably protected against corrosion if the lack of a protective coating would likely produce a hazardous condition in normal use or when the toy is subjected to reasonably foreseeable damage or abuse.

(d) *Mechanical assembly*—(1) *General.* A toy shall be designed and constructed to have the strength and rigidity necessary to withstand reasonably foreseeable damage and abuse without producing or increasing a shock, fire, or other accident hazard. An increase in hazards may be due to total or partial structural collapse of the toy resulting in a reduction of critical spacings, loosening or displacement of one or more components, or other serious defects.

(2) *Mounting.* Each switch, lampholder, motor, automatic control, transformer, and similar component shall be securely mounted and shall be prevented from turning, unless the turning of such component is part of the design of the toy and produces no additional hazard such as reduced spacings below acceptable levels or stress on the connection. Friction between tight-fitting surfaces shall not be considered sufficient for preventing the turning of components. The proper use of a suitable lockwasher or a keyed and notched insert plus a suitable lockwasher for singe-hole mountings shall be acceptable. Each toy shall be designed and constructed so that vibrations occurring during normal operation and after reasonably foreseeable damage or abuse will not affect it adversely. Brush caps shall be tightly threaded or otherwise designed to prevent loosening.

(3) *Structural integrity.* Heating elements shall be supported in a substantial and reliable manner and shall be structurally prevented from making contacts inside or outside of the toy which may produce shock hazards. The current-carrying component(s) of the heating element shall be enclosed, and the enclosure shall be designed or insulated to prevent the development of a shock or fire hazard that may result from element failure. A toy operating with a gas or liquid under pressure, such as an electrically operated steam engine, shall be tested with respect to its explosion hazard and shall be provided with a pressure relief device that will discharge in the safest possible direction; that is, avoiding direct human contact and avoiding the wetting of electrical contacts.

(e) *Insulating material.* (1) Material to be used for mounting uninsulated live electrical elements shall be generally accepted as suitable for the specific application, particularly with regard to electrical insulation (voltage breakdown) and good aging characteristics (no significant change in insulating characteristics over the expected lifetime of the toy).

(2) Material used to insulate a heating element from neighboring parts shall be suitable for the purpose. If plain asbestos in a glass braid is used to so insulate the heating element, it shall be tightly packed and totally enclosed by the braid, and the overall thickness, including the braid, shall not be less than one-sixteenth inch. Hard fiber may be used for electrically insulating bushings, washers, separators, and barriers, but is not sufficient as the sole support of uninsulated live metal parts.

(f) *Enclosures*—(1) *General.* Each toy shall have an enclosure constructed of protective material suitable for the particular application, for the express purpose of housing all electrical parts that may present a fire, shock, or other accident hazard under any conditions of normal use or reasonably foreseeable damage or abuse. Enclosures shall meet the performance requirements prescribed by § 1505.6(b).

(2) *Accessibility.* An enclosure containing a wire, splice, brush cap, connection, electrical component, or uninsulated live part or parts at a potential of more than 30 volts r.m.s. (42.4 volts peak) to any other part or to ground:

(i) Shall be sealed by welding, riveting, adhesive bonding, and/or by special screws or other fasteners not removable with a common household tool (screwdriver, pliers, or other similar household tool) used as intended; and

(ii) Shall have no opening permitting entry of a 0.010-inch-diameter music wire that could contact a live part. Cross-notch-head screws, spring clips, bent tabs, and similar fasteners shall not be considered suitable sealing devices for enclosures since they are easy to remove with common household tools. Bent tabs shall be acceptable if, due to metal thickness or other factors, they successfully resist forceful attempts to dislodge them with ordinary tools.

(3) *Nonapplication.* The requirements of this paragraph are not applicable to an insulating husk enclosure or equivalent that covers the electrodes of a replaceable incandescent lamp and its lampholder contacts. The primary function of an enclosure containing a lamp shall be to protect it from breakage during normal use or reasonably foreseeable damage or abuse.

(g) *Spacings.* The distance, through air or across the surface of an insulator, between uninsulated live metal parts and a metallic enclosure and between uninsulated live metal parts and all other metal parts shall be suitable for the specific application as determined by the dielectric strength requirements prescribed by § 1505.6(e)(2). Electrical insulating linings on barriers shall be held securely in place.

(h) *Special safety features*—(1) *Moving parts.* If the normal use of a toy involves accident hazards, suitable protection shall be provided for the reduction of such hazards to an acceptable minimum. For example, rotors, pulleys, belting, gearing, and other moving parts shall be enclosed or guarded to prevent accidental contact during normal use or when subjected to reasonably foreseeable damage or abuse. Such enclosure or guard shall not contain openings that permit entrance of a ¼-inch-diameter rod and present a hazardous condition.

(2) *Switch marking.* Any toy having one or more moving parts which perform an inherent function of the toy and which may cause personal injury shall have a switch that can deenergize the toy by a simple movement to a plainly marked "OFF" position. Momentary contact switches which are normally in the "OFF" position need not be so marked.

(3) *Electrically operated sewing machines.* Electrically operated toy sewing machines shall be designed and constructed to eliminate the possibility of a child's finger(s) being pierced by a needle. For the purpose of this subparagraph, a clearance of not more than five thirty-seconds of an inch below the point of the needle when in its uppermost position or below the presser foot, if provided, shall be considered satisfactory.

(4) *Pressure relief valves.* A pressurized enclosure shall have an automatic pressure relief device and shall be capable of withstanding hydrostatic pressure equal to at least five times the relief pressure.

(5) *Containers for heated materials.* Containers intended for holding molten compounds and hot liquids shall be designed and constructed to minimize accidental spillage. A pot or pan having a lip and one or more properly located pouring spouts and an adequately thermally insulated handle may provide satisfactory protection. Containers intended solely for baking need not be designed and constructed to minimize accidental spillage. Containers shall be of such material and construction that they will not deform or melt when subjected to the maximum operating temperature occurring during normal use or after reasonably foreseeable damage or abuse.

(6) *Water.* Electrically operated toys (such as toy irons) shall not be designed or manufactured to be used with water except for toy steam engines or other devices in which the electrical components are separate from the water reservoir and are completely contained in a sealed chamber. Toys requiring occasional or repeated cleaning with a wet cloth shall be constructed to prevent seepage of water into any electrically active area that may produce a hazardous condition.

**§ 1505.5 Electrical design and construction.**

(a) *Switches.* (1) Switches and other control devices of electrically operated toys shall be suitable for the application and shall have a rating not less than that of the load they control (see § 1505.6(e)(5)(ii) regarding electrical switch overload). A switch that controls a replaceable incandescent lamp, electrode, or lampholder contact which is at a potential of more than 30 volts r.m.s. (42.4 volts peak) to any other part or to ground shall open both sides of the circuit and shall have a marked "OFF" position. A switch that may reasonably be expected to be subjected to temperatures higher than 50° C. (122° F.) shall be constructed of materials which are suitable for use at such temperatures.

(2) Switches shall be located and protected so that they are not subject to mechanical damage that would produce a hazard in normal use or from reasonably foreseeable damage or abuse (see § 1505.6(b)).

(b) *Lamps.* (1) A replaceable incandescent lamp having a voltage of more than 30 volts r.m.s. (42.4 volts peak) between any of its electrodes or lampholder contacts and any other part or ground shall be in an enclosure that has at least one door or cover permitting access to the lamp. Such door(s) or cover(s) of the enclosure shall be so designed and constructed that they cannot be opened manually or with a flat bladed screwdriver or pliers.

(2) With all access doors and covers closed, the lamp enclosure shall have no opening that will permit entry of a straight rod 6 inches long and one-fourth inch in diameter if such entry would present an electrical hazard. The lamp shall be located no less than one-half inch from any ¼-inch-diameter opening in the enclosure.

(3) A toy having one or more lampholders shall be designed and constructed so that no live parts other than the contacts of the lampholders are exposed to contact by persons removing or replacing lamps. The shells of all lampholders for incandescent lamps shall be at the same potential.

(4) If the potential between the contacts of a lampholder for a replaceable incandescent lamp and any other part or ground is greater than 30 volts r.m.s. (42.4 volts peak), the contacts shall be located in an insulating husk or equivalent.

(c) *Transformers.* Transformers that are integral parts of toys shall be of the 2-coil insulated type.

(d) *Automatic controls.* Automatic controls for temperature regulation shall have the necessary capacity and reliability for their particular application.

(e) *Power supply connections (cords and plugs).* (1) A toy shall be provided with a suitable means for attachment to the power supply circuit.

(2) A toy requiring a power cord shall have a flexible cord that is permanently attached to the toy.

(3) The perimeter of the face of the attachment-plug cap shall be not less than five-sixteenths of an inch from any point on either blade of the plug.

(4) The body of the attachment-plug cap shall decrease in cross section from the face but shall have an expansion of the body, after a suitable distance from the face, sufficient to provide an effective finger grip.

(5) A flexible electrical power cord provided on a toy shall be type SP–2 (as defined in the "National Electrical Code," Chapter 4, article 400, pages 184–194 (1971),[2] published by the National Fire Protection Association), or its equivalent, or a heavier general-use type, and shall be not less than 5 feet nor more than 10 feet in length when measured as the overall length of the attached cord outside the enclosure of the toy, including fittings, up to the face of the attachment-plug cap.

(6) A flexible cord and plug shall have a current-carrying capacity of not less than the ampere rating of the toy.

(7) Cords on toys which are intended to come in direct contact with water or other liquids during use shall be of a jacketed type. Cords on toys with which water or other liquids are to be indirectly used (such as for cooling a mold) shall be plastic covered.

(8) Transformers in which the primary coil connects directly to the branch circuit outlet shall not be subject to the requirements of paragraphs (e)(2), (4), and (5) of this section.

(f) *Bushings.* (1) At the point where a power supply cord passes through an opening in a wall, barrier, or the overall enclosure of a toy, a suitable and substantial bushing, insulating bushing, or equivalent shall be reliably secured in place and shall have smooth surfaces and well-rounded edges against which the cord may bear.

(2) If a cord hole is in wood, porcelain, phenolic composition, or other suitable insulating material, the surface of the hole is acceptable without a bushing if the edges of the hole are smooth and well-rounded. Where a separate insulating bushing is required, a bushing made of ceramic material or a suitable molded composition is acceptable if its edges are smooth and well-rounded.

(3) In no instance shall a separate bushing of wood, rubber, or any of the hot-molded shellac-and-tar compositions be considered acceptable.

(g) *Wiring.* (1) The internal wiring of a toy shall consist of suitable insulated conductors having adequate mechanical strength, dielectric properties, and electrical capacity for the particular application.

(2) Wireways shall be smooth and entirely free of sharp edges, burrs, fins, and moving parts that may abrade conductor insulation. Each splice and connection

[2] Copies may be obtained from: National Fire Protection Association, 60 Batterymarch Street, Boston, MA 02110.

shall be mechanically secure, shall provide adequate and reliable electrical contact, and shall be provided with insulation at least equivalent to that of the wire involved unless adequate spacing between the splice and all other metal parts is permanently assured.

(3) A wire connector for making a splice in a toy shall be a type that is applied by a tool and for which the application force of the tool is independent of the force applied by the operator.

(4) Soldered connections shall be made mechanically secure before soldering.

(5) Current-carrying parts shall be made of silver, copper, a copper alloy, or other electrically conductive material suitable for the particular application.

(h) *Strain relief.* (1) A means of strain relief shall be provided to prevent mechanical stress on a flexible cord from being transmitted to terminals, splices, or interior wiring.

(2) If suitable auxiliary insulation is provided under a clamp for mechanical protection, clamps of any material are acceptable for use on Type SP–2 (as defined in the "National Electrical Code," chapter 4, article 400, pages 184–194 (1971),[3] published by the National Fire Protection Association), or equivalent rubber-insulated cord. For heavier types of thermoplastic-insulated cord, clamps may be without auxiliary insulation unless the clamp may damage the cord insulation.

(3) A flexible cord shall be prevented from being pushed into the toy through the cord-entry hole if such displacement would result in a hazardous condition.

(4) A knot in the cord shall not be considered an acceptable means of strain relief, but a knot associated with a loop around a smooth, fixed structural component shall be considered acceptable.

(i) *Additional requirements.* Except for the electrodes of a replaceable incandescent lamp and its lampholder contacts, a potential of more than 30 volts r.m.s. (42.4 volts peak) shall not exist between any exposed live part in a toy and any other part or ground.

§ 1505.6 Performance.

(a) *General.* Electrically operated toys and components thereof shall be tested by the appropriate methods described in this section and shall pass the tests in such a manner as to provide the necessary assurance that normal use and reasonably foreseeable damage or abuse will not produce a hazard or a potentially hazardous condition. The toy shall be capable of passing all applicable tests with any door, cover, handle, operable part, or accessory placed in any normal position. A toy shall not present a fire, casualty, or shock hazard when operated continuously for 6 hours under conditions of normal use and reasonably foreseeable damage or abuse, including the most hazardous position in which the toy can be left.

(b) *Enclosures.* For purposes of this section, the term "enclosure" means any surface or surrounding structure which prevents access to a real or potential hazard. An enclosure shall withstand impact, compression, and pressure tests (see paragraphs (b) (1), (2), and (3) of this section) without developing any openings above those specified, reduction of electrical spacings below those specified, or other fire, casualty, or shock hazards, including the loosening or displacement of components but excluding breakage of a lamp. After completion of each test, the toy shall comply with the requirements of the dielectric strength test described in paragraph (e)(2) of this section and, upon visual examination, shall not evidence the development of any hazards. Rupture of a fuse shall be considered a test failure.

(1) *Impact test.* A toy weighing 10 pounds or less shall be dropped four times from a height of 3 feet onto a 2½ inch thick concrete slab covered with 0.125 inch nominal thickness vinyl tile. The impact area shall be at least 3 square feet. The test shall be conducted while the toy is energized and operating and with all dead metal of the toy that may be energized connected together electrically and grounded through a 3-ampere plug fuse. The toy shall be dropped in random orientation. After each drop the test sample shall be allowed to come to rest and examined and evaluated before continuing.

(2) *Compression test.* Any area on the surface of the enclosure that is accessible to a child and inaccessible to flat-surface contact during the impact test shall be subjected to a direct force of 20 pounds for 1 minute. The force shall be applied over a period of 5 seconds through the axis of a ½-inch-diameter metal rod having a flat end with the edge rounded to a radius of one thirty-second of an inch to eliminate sharp edges. The axis of the rod shall be perpendicular to the surface being tested. During the test the toy shall rest on a flat, hard surface in any test-convenient position.

(3) *Pressure test.* If any portion of the top of a toy has a flat surface measuring 24 square inches or more and a minor dimension of at least 3 inches, that surface shall be subjected to a direct vertical pressure increasing to 50 pounds over a period of 5 seconds and maintained for 1 minute. The force shall be applied through a steel ball 2 inches in diameter. During the test the toy shall be in an upright position on a flat, horizontal solid surface.

(c) *Handles and knobs*—(1) *General.* For the purposes of tests in this paragraph, the parts of a lifting handle on a toy that are within seven-sixteenths of an inch of the surface to which the handle is attached, or the parts of a lifting knob that are within one-fourth inch of the surface to which the knob is attached, are considered to be for support purposes, and the remainder of the handle or knob is considered to be generally functional in nature. A handle or knob shall withstand crushing and lifting tests (see paragraphs (c) (2) and (3) of this section) without fracture of the handle or knob, development of an opening that may pinch the hand, or breakage of the means used to fasten the handle or knob in place.

(2) *Crushing test.* The functional portion of a handle or knob shall be subjected to a crushing force increasing to 20 pounds over a period of 5 seconds and maintained for 1 minute. The force shall be applied through two flat and parallel hardwood blocks, each at least 2½ inches thick and each having dimensions slightly exceeding those of the handle or knob being tested. The crushing force between the blocks shall be exerted in any direction perpendicular to the major axis of the handle or knob.

(3) *Lifting test.* The support portion of a handle or knob shall be subjected to a force equal to four times the weight of the object it is intended to support. The direction of the lifting force shall be as intended by the design of the toy and shall be applied through a ½-inch-wide strap through or around a handle or by fingers or the equivalent on a knob. The force shall be applied over a period of 5 seconds through the center of gravity of the toy and maintained for 1 minute.

(d) *Stability.* A toy shall not overturn while resting in an upright position on a flat surface inclined 15° from horizontal. No spillage of molten material or hot liquids from containers shall occur while the toy is operating in this position under normal conditions of use. During this test, casters, if any, shall be in the position most likely to result in tipping, but shall not be artificially held in one position to prevent a natural rotation to another position.

(e) *Electrical*—(1) *Power input.* The actual current flow in a toy without a heating element shall not exceed 110 percent of the rated value, and shall not exceed 5.5 amperes, at rated voltage. The power input to a toy with a heating element shall not exceed 105 percent of the rated value at rated voltage. The power input rating of a toy employing one or more incandescent lamps as the only power-consuming components shall be considered to be the total rated wattage of such lamps. The rated voltage shall be considered to be the mean value of a marked voltage range.

(2) *Dielectric strength.* (i) A toy shall be capable of withstanding without breakdown for 1 minute a 60-cycle-per-second (60 Hertz) essentially sinusoidal potential of 1,000 volts applied between live parts and any dead metal parts.

(ii) If a toy employs a low-voltage secondary winding (either in the form of a conventional transformer or as an insulated coil of a motor), the toy shall also be capable of withstanding without breakdown for 1 minute a sinusoidal test potential applied between the high-voltage and low-voltage windings. The test potential shall be applied at the rated frequency of the toy and shall have a value of 1,000 volts plus twice the rated voltage of the high-voltage winding. The test potential shall be supplied from a suitable capacity-testing transformer, the output voltage of which can be regulated. The waveform of the test voltage shall approximate a sine wave as closely as possible.

[3] Copies may be obtained from: National Fire Protection Association, 60 Batterymarch Street, Boston, MA 02110.

(iii) The applied test potential shall be increased rapidly and uniformly from zero until the required test value is reached and shall be held at that value for 1 minute. Unless otherwise specified, the toy shall be at the maximum operating temperature reached in normal use prior to conducting the tests.

(iv) The dielectric strength requirements of this subparagraph may also be determined by subjecting the toy to a 60-cycle-per-second (60 Hertz) essentially sinusoidal potential of 1,200 volts for 1 second. If the dielectric strength is determined by this method, the toy need not be in a heated condition.

(3) *Leakage current and repeated dielectric withstand tests.* (i) Both before and after being conditioned, a toy intended to operate from a source exceeding 42.4 volts peak shall:

(*a*) Not have a leakage current exceeding 0.5 milliampere, except that during the interval beginning 5 seconds and terminating 10 minutes after the toy is first energized, the leakage current of toys with heating elements other than lamps shall not exceed 2.5 milliamperes; and

(*b*) Comply with the requirements of a repeated dielectric withstand test both with and without preheating.

(ii) All accessible parts of a toy shall be tested for leakage current. If an insulating material is used for the enclosure or part of the enclosure, the leakage current shall be measured using a metal foil with an area not exceeding 10 by 20 centimeters in contact with accessible surfaces of such insulating material. Where the accessible surface of insulating material is less than 10 by 20 centimeters, the metal foil shall be the same size as the surface. The metal foil shall be so applied that it will not affect the temperature of the toy. The accessible parts shall be tested individually, collectively, and from one part to another.

(iii) Following the initial leakage current test, the toy shall be cooled down or heated up to 32° C. (90° F.). The toy shall then be conditioned for 48 hours in air at a temperature of 32°±2° C. (89.6°±3.6° F.) and with a relative humidity of 90–95 percent. The specified relative humidity shall be maintained inside a closed compartment in which a saturated solution of potassium sulphate is kept in a suitable container. Leakage current measurements shall be made, as specified in paragraph (e)(3)(ii) of this section and before the toy is energized, while the toy is in the humidity compartment.

(iv) With the connections intended for the source of supply connected thereto and then connected to the ungrounded side of a power supply circuit having a voltage equal to 110 percent of the rated voltage of the toy, the leakage current through a noninductive 1,500-ohm resistor connected between the grounded side of the supply circuit and each dead metal part (accessible and inaccessible) shall, when stable, be measured in accordance with the test provisions established in ANSI Standard C 101.1–1971, "American National Standard for Leakage Current for Appliances," approved November 17, 1970,[4] published by American National Standards Institute.

The toy shall then be removed from the humidity chamber, energized, and tested again after attaining its normal operating temperature. From these measurements, a leakage current with no resistance shall be calculated and used to determine compliance.

(v) For a toy whose outer enclosure consists wholly or partly of insulating material, the term "dead metal part" means metal foil tightly wrapped around the exterior of the enclosure in a manner that covers, but does not enter into, any enclosure openings.

(4) *Motor operation.* (i) A motor provided as part of a toy shall be capable of driving its maximum normal load in the toy without introducing any potentially hazardous condition. The performance of the toy shall be considered unacceptable if, during the test, temperatures in excess of those specified in § 1505.7 for Type D surfaces are attained on any accessible surface. The performance of the toy shall also be considered unacceptable if the rise in temperature during the test causes melting, scorching, embrittlement, or other evidence of thermal damage to the insulating material used to prevent exposure of live metal parts.

(ii) A motor-operated toy shall be tested with the motor stalled if the construction of the toy is such that any person can touch moving parts associated with the motor from outside the toy. The performance of the toy shall be considered unacceptable if, during the test, temperatures higher than those specified in § 1505.8 are attained or if temperatures higher than those specified for Type C surfaces in § 1505.7 are attained on any accessible surface of the motor.

(5) *Overload*—(i) *Motor.* A motor-control switch that is a part of a toy shall be horsepower-rated to cover the load or shall be capable of performing acceptably when subjected to an overload test consisting of 50 cycles of operation by making and breaking the stalled-rotor current of the toy at maximum rated voltage. There shall be no electrical or mechanical failure nor any visible burning or pitting of the switch contacts as a result of this test.

(ii) *Switch.* To determine if a motor-control switch is capable of performing acceptably when subjected to overload conditions, the toy shall be connected to a grounded supply circuit of rated frequency and maximum rated voltage with the rotor of the motor locked into position. During the test, exposed dead metal parts of the toy shall be connected to ground through a 3-ampere plug fuse such that any single pole, current-rupturing device will be located in the ungrounded conductor of the supply circuit. If the toy is intended for use on direct current, or on direct current as well as alternating current, the exposed dead metal parts of the toy shall be so connected as to be positive with respect to a single pole, current-rupturing device. The switch shall be operated at a rate of not more than 10 cycles per minute. The performance of the toy shall be considered unacceptable if the fuse in the grounding connection is blown during the test.

(f) *Hydrokinetic*—(1) *General.* Electrically operated toy steam engines shall be capable of performing acceptably when subjected to the tests described in this paragraph.

(2) *Preliminary test.* The ultimate strength of the boiler assembly shall first be determined by applying a hydrostatic pressure to the boiler with all openings blocked (the pressure-relief valve, steam exhausts, and any whistle or other accessory shall be removed and the resulting openings sealed); however, a water or other type of gage shall be left in place. The hydrostatic pressure shall be applied slowly and the ultimate value which is attained shall be recorded.

(3) *Pressure-relief test.* A pressure gage shall be connected to the boiler assembly which shall then be operated normally. The pressure at which the pressure-relief valve functions shall be noted while the engine is shut off (if a shutoff valve is provided) and with the whistle, if any, turned off. The test shall be discontinued and shall be considered a failure if the observed pressure exceeds one-fifth the value attained in the preliminary test described in paragraph (f)(2) of this section.

(4) *Operating pressure test.* If the boiler is still intact and no failure has occurred, the pressure-relief valve shall then be rendered inoperable and all other valves (such as a whistle and exhaust from the assembly) shall be tightly closed. Operations shall be continued until the pressure becomes constant. This test shall be discontinued and shall be considered a failure if the observed pressure exceeds one-third the value attained in the preliminary test described in paragraph (f)(2) of this section. During this test, all valves, gaskets, joints, and similar components shall be sufficiently tightened to prevent leakage. Rupture of the boiler or of any other fittings supplied with the engine shall be considered a failure.

(5) *Hydrostatic test.* If there has been no failure, two previous untested toys shall withstand for 1 minute a hydrostatic pressure of 5 times the pressure at which the safety valve operated or 3 times the constant pressure observed with the presure-relief valve inoperable, whichever is greater. During this test, all openings shall be blocked (the pressure-relief valve, steam exhaust from the assembly, and any whistle or other outlet); however, a water or other type of gage shall remain in place. Rupture of the boiler or of a gage shall be considered a failure.

(g) *Thermal*—(1), *General.* The normal operation of a toy includes performance in normal use and after being subjected to reasonably foreseeable damage or abuse likely to produce the

[4] Copies may be obtained from: American National Standards Institute, 1430 Broadway, New York, NY 10018.

highest temperatures or, in the case of motor-operated toys, the load that most closely approximates the severest conditions of normal use or reasonably foreseeable damage or abuse.

(2) *Classification.* Parts or surfaces of a toy are classified according to their use or function as follows (for the purposes of paragraph (g)(2)(v), (vi), and (vii) of this section, accessibility shall be defined as the ability to reach a heated surface with a ¼-inch-diameter rod 3 inches long):

(i) *Type A.* A part or surface of a toy (such as a handle) likely to be grasped by the hand or fingers for the purpose of carrying the toy or lifting a separable lid.

(ii) *Type B.* A part or surface of a toy that is (*a*) part of a handle, knob, or similar component, as in Type A (described in paragraph (g)(2)(i) of this section), but which is not normally grasped or contacted by the hand or fingers for carrying (including parts of a handle within seven-sixteenths of an inch of the surface to which the handle is attached and parts of a finger knob within ¼ inch of the surface to which the knob is attached, if the remainder of the knob is large enough to be grasped), or (*b*) a handle, knob, or part that may be touched but which need not be grasped for carrying the toy or lifting a lid, door, or cover (e.g., support part of a handle or knob).

(iii) *Type C.* A part or surface of a toy that can be touched by casual contact or that can be touched without employing the aid of a common household tool (screwdriver, pliers, or other similar household tool) and that is either (*a*) a surface that performs an intended heating function (e.g., the soleplate of a flatiron, a cooking surface, or a heating element surface), or (*b*) a material heated by the element and intended to be used as the product of the toy, excluding pans, dishes, or other containers used to hold the material to be cooked or baked if a common utensil or other device is supplied with the toy and specific instructions are established for using such a device to remove the container from the heated area.

(iv) *Type C marked.* A Type C surface which has been marked with a precautionary statement of thermal hazards in accordance with § 1505.3(e)(2).

(v) *Type D.* An accessible part or surface of a toy other than Types A, B, C, or E (see paragraphs (g)(i), (ii), (iii) and (vii) of this paragraph).

(vi) *Type D marked.* A Type D surface which has been marked with a precautionary statement of thermal hazards in accordance with § 1505.3(e)(2).

(vii) *Type E.* A heated surface in an oven or other article that is inaccessible or protected by an electrical-thermal safety interlock. Such interlocks shall prohibit the operation of a heating device whenever such surfaces are accessible and shall not allow accessibility to such surfaces until the temperatures of those surfaces have been reduced to levels below those established for Type D surfaces (paragraph (g)(2)(v) of this section).

(3) *Requirements.* When tested under the conditions described in paragraph (g)(4) of this section, a toy shall not attain a temperature at any point sufficiently high to constitute a fire hazard or to adversely affect any materials employed and shall not show a maximum temperature higher than those established by §§ 1505.7 and 1505.8. These maximum surface temperature requirements are not applicable to educational- or hobby-type products such as lead-casting sets and wood-burning tools which are appropriately labeled on the shelf pack or package as being intended only for children over 12 years of age provided that the maximum surface temperature of any such toy does not exceed that reasonably required to accomplish the intended technical effect. Such toys shall be provided with specific instructions and the warning statements required by and in accordance with § 1505.3(d) and (e), and shall be appropriately identified as educational or hobby-type products.

(4) *Test conditions*—(i) *General.* Tests shall be conducted while the toy is connected to a circuit of 60-cycle-per-second (60 Hertz) current using the materials supplied with the toy or using materials otherwise intended to be used with the toy. Following such tests, the toy shall be energized for a 6-hour period to determine that no hazardous conditions would result from unattended use of the toy.

(ii) *Temperature.* Normally, tests shall be performed at an ambient (room) temperature of 25° C. (77° F.); however, a test may be conducted at any ambient temperature within the range of 21° to 30° C. (69.8° to 86° F.).

(iii) *Voltage.* The toy shall be tested at the voltage indicated in the manufacturer's rating or at 120 volts, whichever is greater.

(5) *Temperature measurements*—(i) *General.* Temperatures shall be measured by means of instruments utilizing thermocouples of No. 30 AWG (American Wire Gage) wire (either copper and constantan or iron and constantan) and potentiometer-type instruments that are accurate and are calibrated in accordance with current good laboratory practices. The thermocouple wire shall conform with the requirements for "special" thermocouples as listed in the table of limits of error of thermocouples (Table VIII) in "American Standard for Temperature Measurement Thermocouples, C96.1–1964,"[5] approved June 9, 1964, by American National Standards Institute, Inc. The Standard was sponsored and published by the Instrument Society of America.

(ii) *Test procedures.* The thermocouple junction and adjacent thermocouple lead wire shall be securely held in good thermal contact with the surface of the material whose temperature is being measured. In most cases, good thermal contact will result from securely taping or cementing the thermocouple in place. If a metal surface is involved, brazing or soldering the thermocouple to the metal may be necessary. The surface temperatures of a toy shall be measured with the toy operating in any unattended condition (e.g., with and without opening and closing doors or covers) for a sufficient period of time to allow temperatures to become constant, or, in the case of a toy with a thermostatically controlled heating element, for a sufficient period of time to determine the maximum surface temperature attained. A temperature shall be considered to be constant when three successive readings taken at 15-minute intervals indicate no change.

(iii) *Heating devices.* Toy ovens, casting toys, popcorn and candymakers, and other toys requiring the insertion of any materials or substances shall be additionally tested by feeding crumpled strips of newspaper and tissue paper into or onto the toy in place of the intended materials or substances. The test strips shall be conditioned for at least 48 hours in air at a temperature of 25°±4° C. (77°±7° F.) and a relative humidity of 50 percent ±5 percent. The test strips shall be 2 inches wide by 8 inches long before crumpling. The crumpled paper shall occupy not more than 25 percent of the accessible volume. The performance of the toy shall be considered unacceptable if flaming occurs within a 60-minute period following the attainment of normal operating temperatures. If a light bulb is used for heating purposes, the test shall be conducted using the largest wattage bulb that can be easily inserted into the socket.

(h) *Strain-relief test.* (1) The strain-relief means provided on the flexible power cord of a toy shall be capable of withstanding a direct pull of 35 pounds applied to the cord for 2 minutes without displacement of the strain-relief unit or a deformation of the anchoring surface that would produce a stress which would result in a potentially hazardous condition. A 35-pound weight shall be attached to the cord and supported by the toy in such a manner that the strain-relief means is stressed from any angle that the construction of the toy permits. The test shall be conducted with the electrical connection within the toy disconnected.

(2) The initial 2-minute test shall be conducted with the force vector parallel to the longitudinal axis of the cord and perpendicular to the anchoring surface of the strain-relief unit. Each test at other angles of stress shall be conducted for periods of 1 minute. The strain-relief means is not acceptable if, at the point of disconnection of the cord, there is any movement of the cord to indicate that stress would have resulted on the connections.

(3) Except for toys weighing more than 10 pounds, the strain-relief unit and its support base shall be designed and constructed in such a manner that

[5] Copies may be obtained from: Instrument Society of America, 530 William Penn Place, Pittsburgh, PA 15219.

no indication of stress would result which would produce a hazard when the cord is held firmly in place 3 feet from the strain-relief unit and the toy is dropped the 3 feet at any angle.

### § 1505.7 Maximum acceptable surface temperatures.

The maximum acceptable surface temperatures for electrically operated toys shall be as follows:

| Surface type (as described in § 1505.6 (g)(2)) | Thermal inertia type [1] | Temperatures °C. | Temperatures °F. |
|---|---|---|---|
| A | 1 | 50 | 122 |
| A | 2 | 55 | 131 |
| A | 3 | 60 | 140 |
| B | 1 | 55 | 131 |
| B | 2 | 65 | 149 |
| B | 3 | 75 | 167 |
| C (unmarked) | 1 | 65 | 149 |
| C (unmarked) | 2 | 75 | 167 |
| C (unmarked) | 3 | 85 | 185 |
| C (unmarked) | 4 | 95 | 203 |
| C marked | 1 | 70 | 158 |
| C marked | 2 | 90 | 194 |
| C marked | 3 | 110 | 230 |
| C marked | 4 | 130 | 266 |
| D (unmarked) | 1 | 55 | 131 |
| D (unmarked) | 2 | 70 | 158 |
| D (unmarked) | 3 | 80 | 176 |
| D (unmarked) | 4 | 90 | 194 |
| D marked | 1 | 60 | 140 |
| D marked | 2 | 75 | 167 |
| D marked | 3 | 100 | 212 |
| D marked | 4 | 125 | 257 |
| E | [2] | [3] | [3] |

[1] Thermal inertia types are defined in terms of lambda as follows:

Type 1: Greater than 0.0045 (e.g., most metals).
Type 2: More than 0.0005 but not more than 0.0045 (e.g., glass).
Type 3: More than 0.0001 but not more than 0.0005 (e.g., most plastics).
Type 4: 0.0001 or less (e.g., future polymeric materials).
The thermal inertia of a material can be obtained by multiplying the thermal conductivity (cal./cm./sec./degrees C.) by the density (gm./cm.$^3$) by the specific heat (cal./gm./degrees C.).

[2] All types.
[3] No limit.

### § 1505.8 Maximum acceptable material temperatures.

The maximum acceptable material temperatures for electrically operated toys shall be as follows (Classes 105, 130, A, and B are from "Motors and Generators," Standard MG–1–1967[6] published by the National Electrical Manufacturers Association):

| Material | Degrees C. | | Degrees F. | |
|---|---|---|---|---|
| Capacitors | [1] | | [1] | |
| Class 105 insulation on windings or relays, solenoids, etc.: | | | | |
| Thermocouple method[2] | 90 | | 194 | |
| Resistance method | 110 | | 230 | |
| Class 130 insulation system | 110 | | 230 | |
| Insulation: | | | | |
| Varnished-cloth insulation | 85 | | 185 | |
| Fiber used as electrical insulation | 90 | | 194 | |
| | Class A | Class B | Class A | Class B |
| Insulation on coil windings of a.c. motors (not including universal motors) and on vibrator coils: | | | | |
| In open motors and on vibrator coils—thermocouple or resistance method[2] | 100 | 120 | 212 | 248 |
| In totally enclosed motors—thermocouple or resistance method[2] | 105 | 125 | 221 | 257 |
| Insulation on coil windings of d.c. motors and of universal motors: | | | | |
| In open motors: | | | | |
| Thermocouple method[2] | 90 | 110 | 194 | 230 |
| Resistance method | 100 | 120 | 212 | 248 |
| In totally enclosed motors: | | | | |
| Thermocouple method[2] | 95 | 115 | 203 | 239 |
| Resistance method | 105 | 125 | 221 | 257 |
| Phenolic composition[3] | | 150 | 302 | |
| Rubber- or thermoplastic-insulated wires and cords[3] | | 60 | 140 | |
| Sealing compound | | [4] | [5] | |
| Supporting surface while the toy is operating normally | | 90 | 194 | |
| Wood and other similar combustible material | | 90 | 194 | |

[1] If the capacitor has no marked temperature limit, the maximum acceptable temperature will be assumed to be 65° C. (149° F.) for an electrolytic type and 90° C. (194° F.) for other than an electrolytic type.
[2] The temperature indicated refers to the hottest spot on the outside surface of the coil measured by the thermocouple method.
[3] The limitations on rubber- and thermoplastic-insulated wires and cords and on phenolic composition do not apply if the insulation or the phenolic has been investigated and found to have special heat-resistant properties, or if the insulation meets the thermal requirements.
[4] 40 less than melting point.
[5] 104 less than melting point.

Dated September 20, 1973.

SADYE E. DUNN,
*Secretary, Consumer Product Safety Commission.*

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[6] Copies may be obtained from: National Electrical Manufacturers Association, 155 East 44th Street, New York, NY 10017.

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